

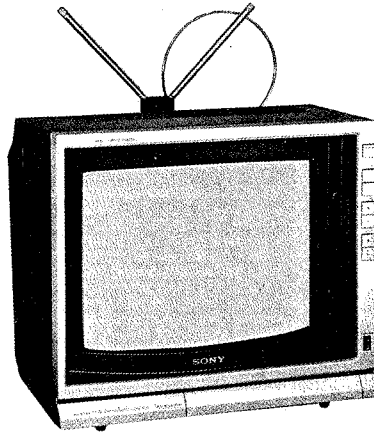
# KV-1654RWP

## RM-712

# SERVICE MANUAL

*E Model*

Chassis No. SCC-470F-A



May, 1983

## P2 CHASSIS

### SPECIFICATIONS

Also refer to ADJUSTMENT MANUAL.

Television system	American TV standards
Channel coverage	VHF channels 2-13 UHF channels 14-83
Picture tube	Trinitron tube 16-inch picture tube measured diagonally 90-degree deflection
Antenna	VHF telescopic dipole antenna 75-ohm VHF antenna terminal 300-ohm UHF antenna terminal
Speaker	Approx. 8 x 12 cm (3 1/8 x 4 3/4 inches)
Power requirements	110-240 V ac, 50/60 Hz
Power consumption	98 W (max.) 73 W (average)
Dimensions	Approx. 430 x 377.5 x 423 mm (w/h/d) (17 x 14 7/8 x 16 3/4 inches)
Weight	Approx. 15.1 kg. (33 lb 5 oz)
Accessories supplied	Remote Commander RM-712 (1) Earphone (1) Channel number segments (1 set) AC plug adaptor



## TRINITRON® COLOR TV


# SONY®

### CTV

**WARNING!!**

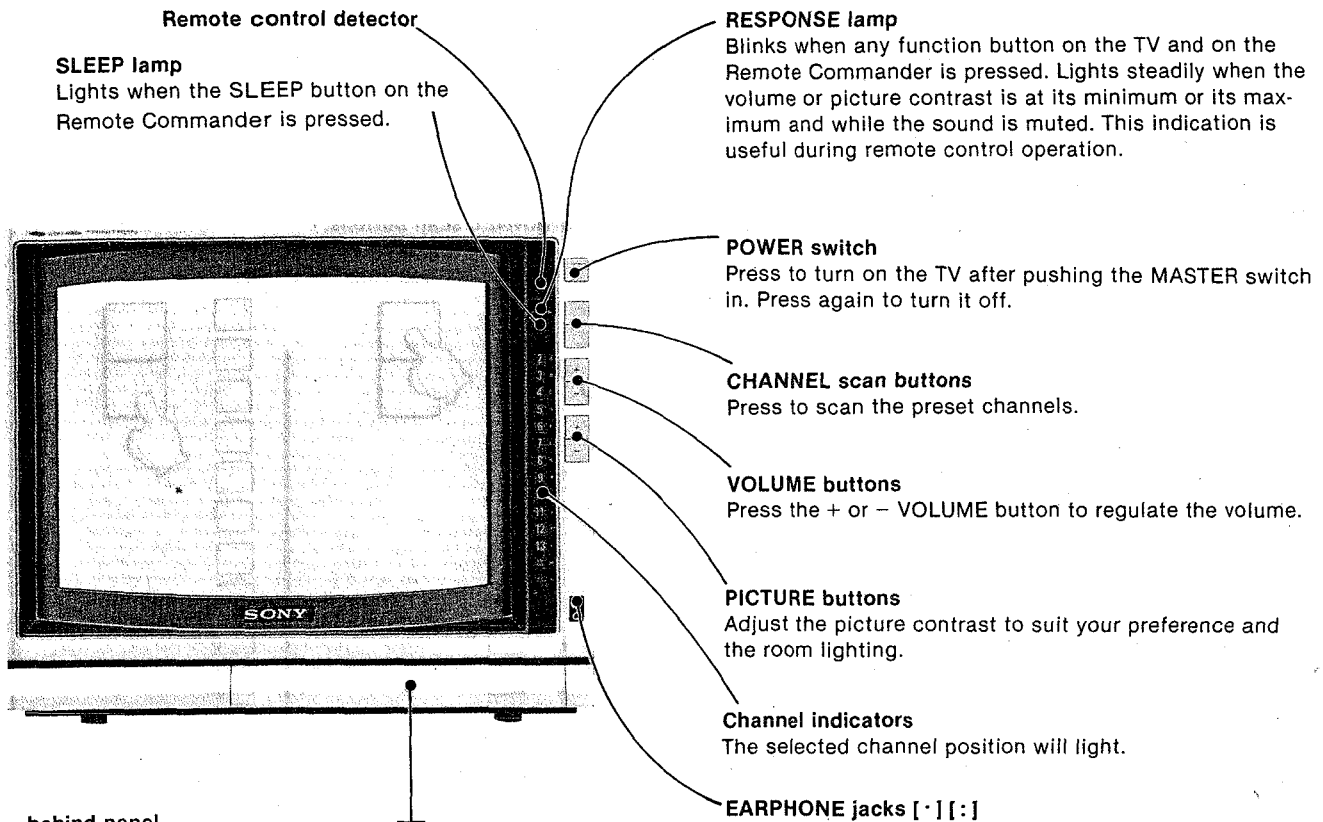
AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

**SAFETY-RELATED COMPONENT WARNING!!**

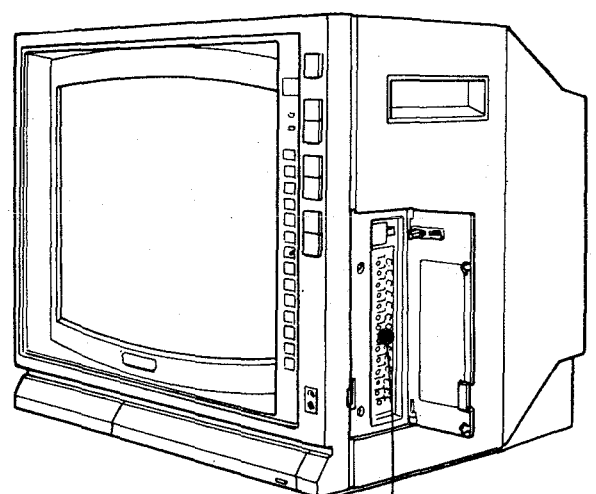
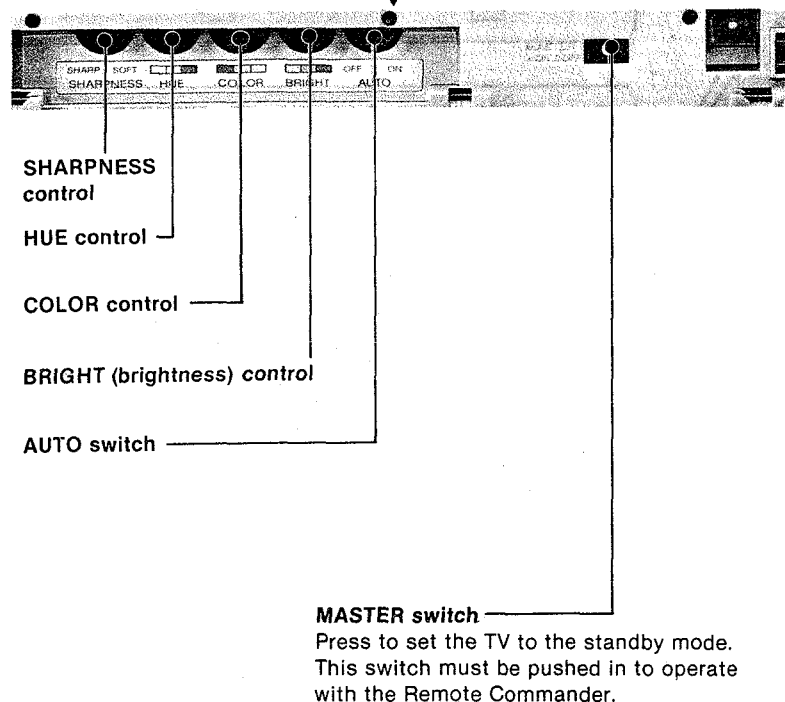
COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

## SECTION 1 GENERAL

### 1-1. LOCATION AND FUNCTION OF CONTROLS



behind panel



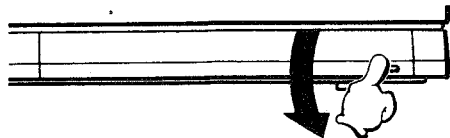
#### Presetting compartment

All the switches and controls for channel presetting are in this compartment. A tuning aid is attached onto the panel for your convenience. For the presetting procedure, see page 5.

## 1-2. NORMAL TV OPERATION (PANEL OPERATION)

### 1 Press the MASTER switch.

Generally keep this switch pushed in to be able to operate the TV with the Remote Commander.



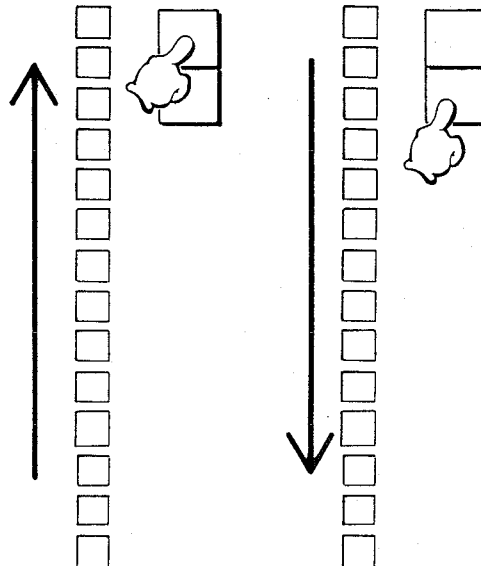
Push down to open.

### 2 Press the POWER switch.

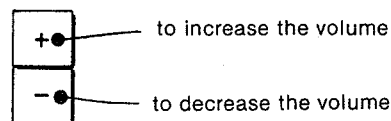
The picture will appear.

### 3 Select the desired channel by pressing the CHANNEL scan buttons.\*

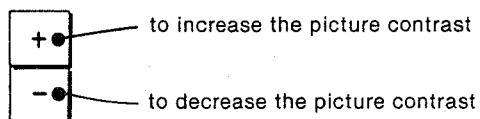
Channels are selected as follows:



### 4 Adjust the volume by pressing the VOLUME buttons.



### 5 Adjust the picture contrast by pressing the PICTURE buttons.



To turn the TV off, press the POWER switch again.

\*This TV is preset at the factory to receive VHF channels 2 through 13 with the CHANNEL scan buttons. To add UHF channels or to skip inactive channels, see page 5.



### 1-3. CHANNEL PRESETTING

Your Sony TV has been factory-preadjusted to receive VHF channels 2 through 13 in sequence when you press the CHANNEL scan buttons. You can add any receivable UHF channels and cancel any inactive VHF channels, so that only the channels available in your area will be scanned. To check each channel and its program, refer to a newspaper or TV program listings.

#### Factory preset

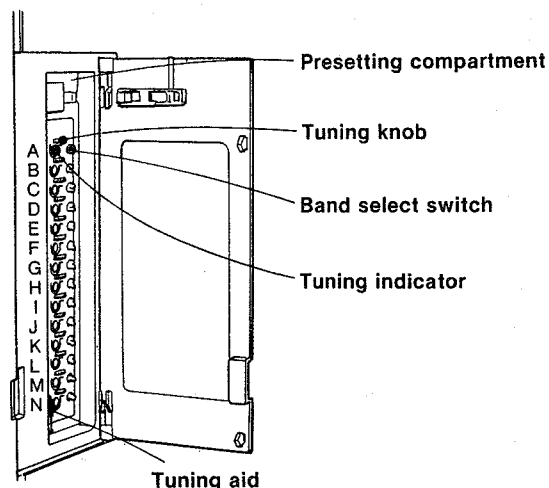
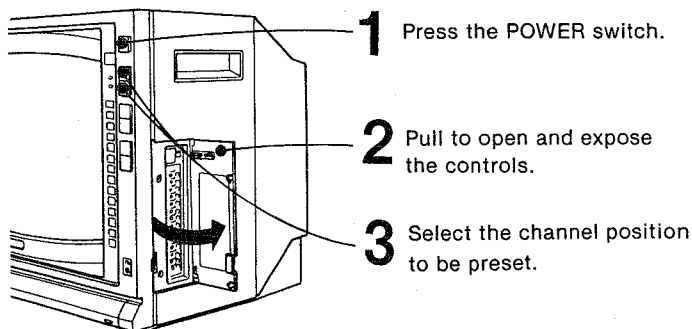
2	A
3	B
4	C
5	D
6	E
7	F
8	G
9	H
10	I
11	J
12	K
13	L
M	
N	

UHF channels can be preset on these two positions. If there are more UHF channels to receive, the presently unused positions among the positions 2-13 may be used.

#### Notes

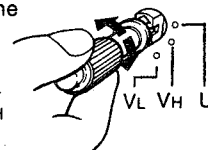
- If you own a video cassette recorder, we recommend that you not reset channel 3 or 4 — whichever is inactive in your area — but use it to receive signals from the video cassette recorder.
- To use your TV set with a cable television system, contact a representative of the cable company for instructions regarding channel selection.

### PRESETTING PROCEDURE



- 4** Using the supplied tuning aid, set the band select switch having the same letter as the selected channel to one of these three positions:

VHF 2 through 6 channels ..... set to VL  
VHF 7 through 13 channels .... set to VH  
UHF 14 through 83 channels .. set to U



- 5** Turn the tuning knob until the desired station is properly tuned in. The tuning indicator provides a visual indication of the approximate location you are tuned to within the selected band.

towards L .... for lower-numbered channels  
towards H .... for higher-numbered channels

Repeat steps 3 through 5 for all the channel positions to be preset.

### TO CANCEL INACTIVE CHANNELS

To cancel an inactive channel, turn the corresponding tuning knob until the tuning indicator points directly up.



Close the compartment lid in order to activate the AFT (Automatic Fine Tuning) switch.

When you press the CHANNEL scan buttons these unused channels will be skipped.

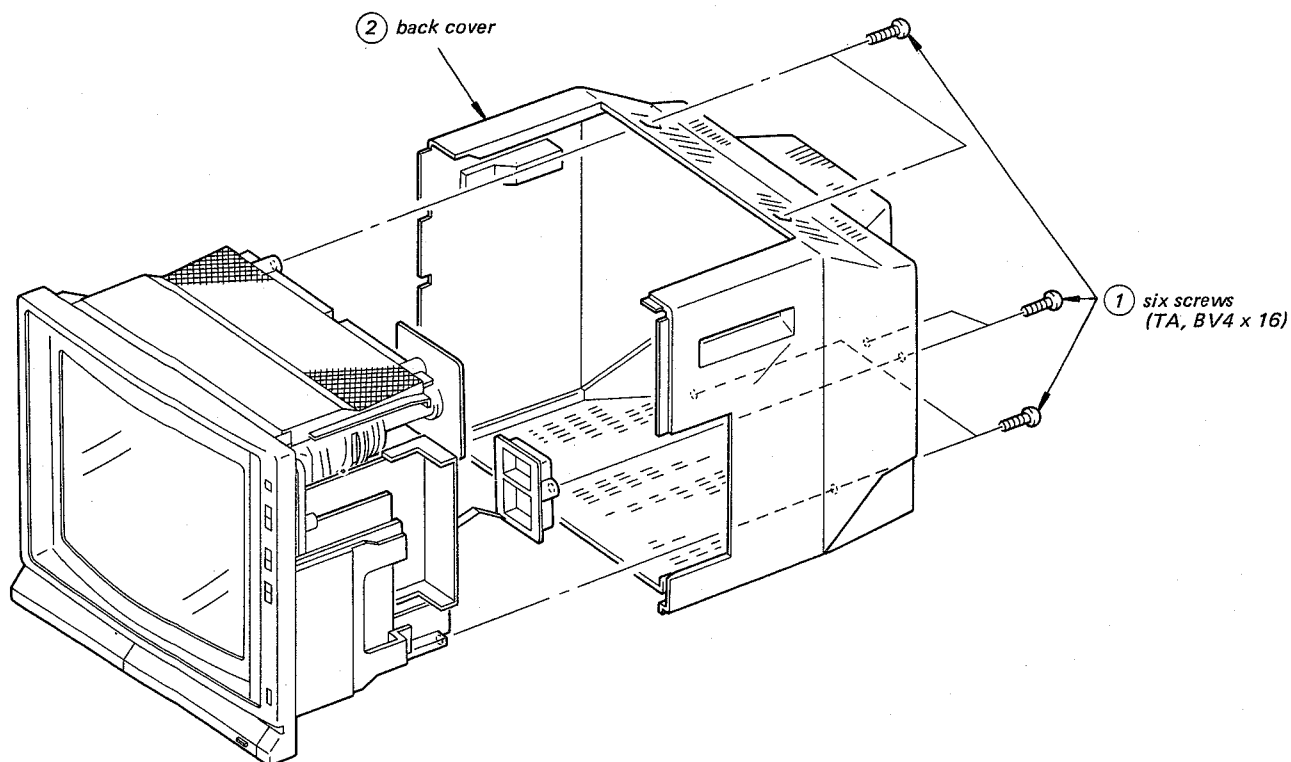
To again preset the cancelled channel, follow the presetting procedure.

## SECTION 2

### DISASSEMBLY (AND REPLACEMENT)

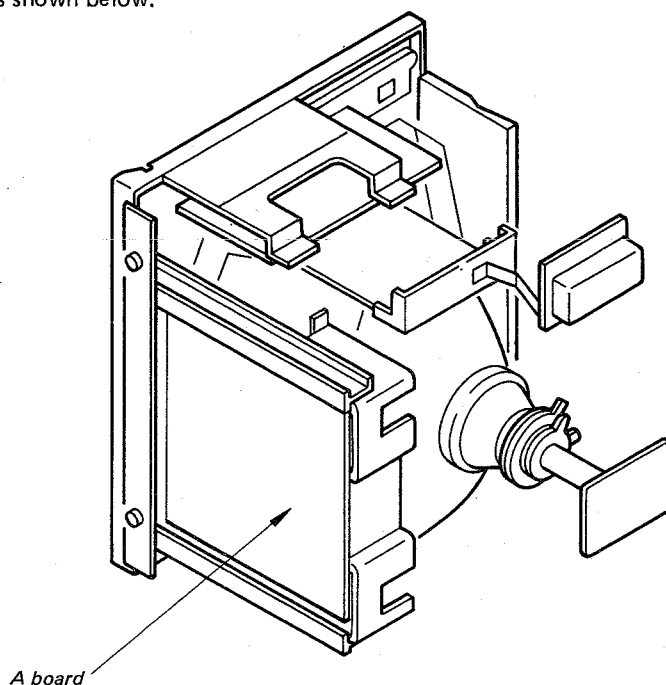
#### 2-1. BACK COVER REMOVAL

**Note:** Follow the disassembly procedure in the numerical order given.

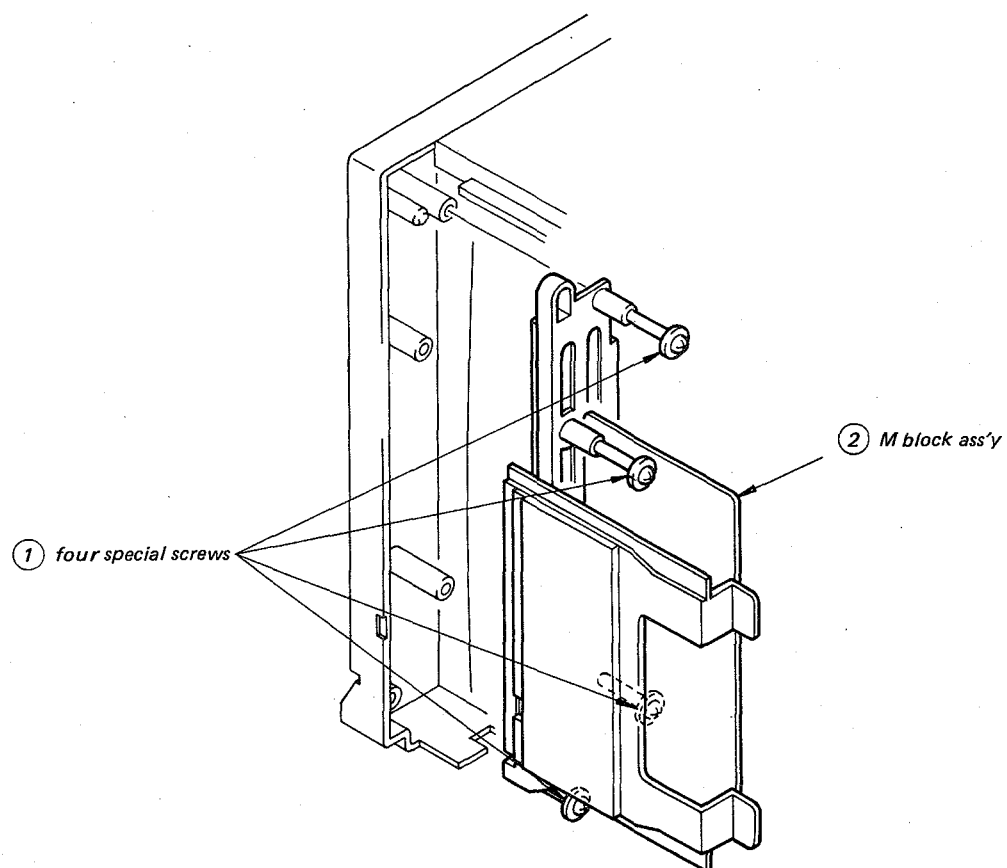


#### 2-2. FOR CHECKING A BOARD UP

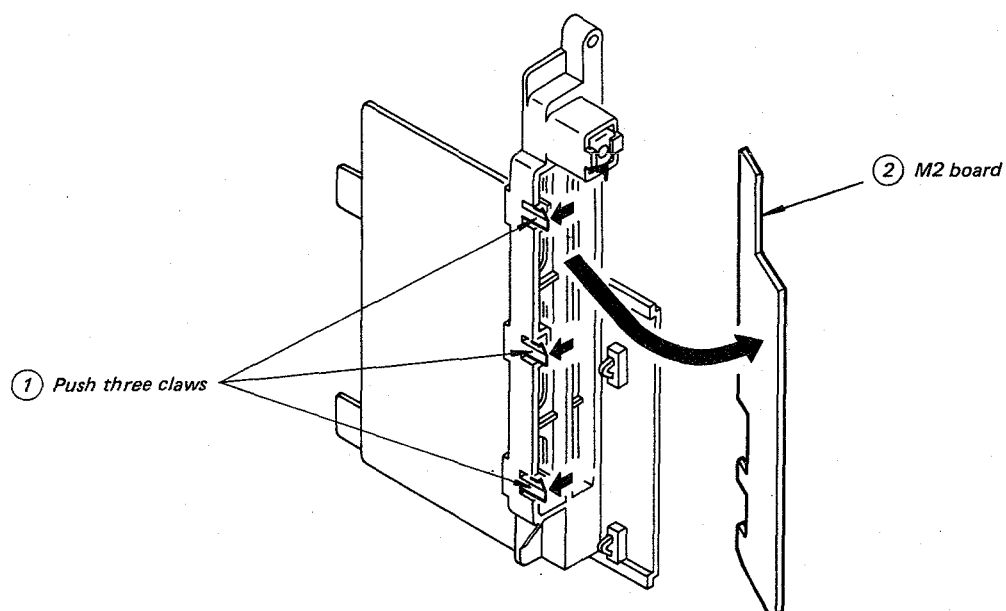
Position the set as shown below.



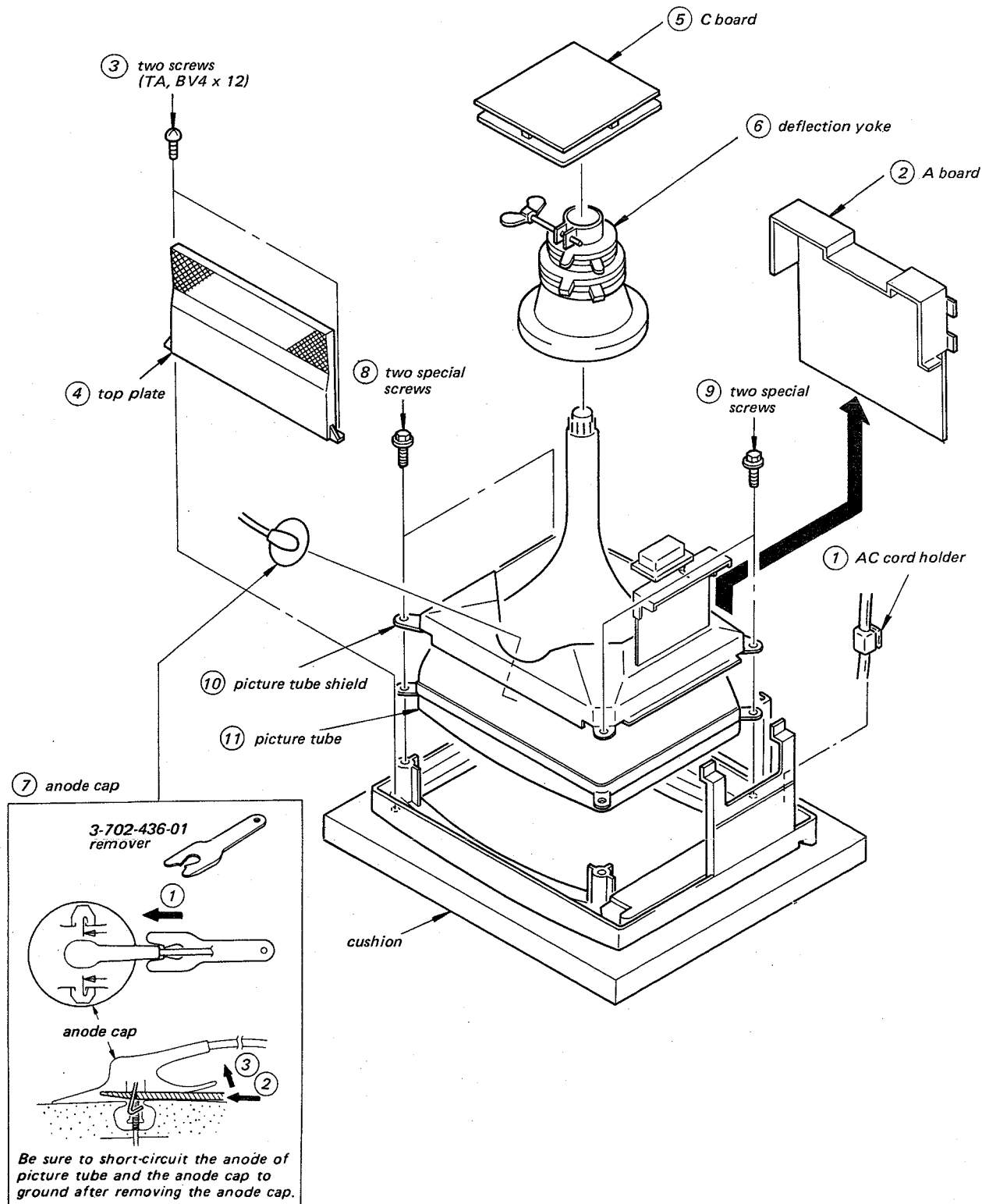
### 2-3. M BLOCK ASSEMBLY REMOVAL



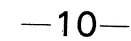
### 2-4. M2 BOARD REMOVAL



## 2-5. PICTURE TUBE REMOVAL

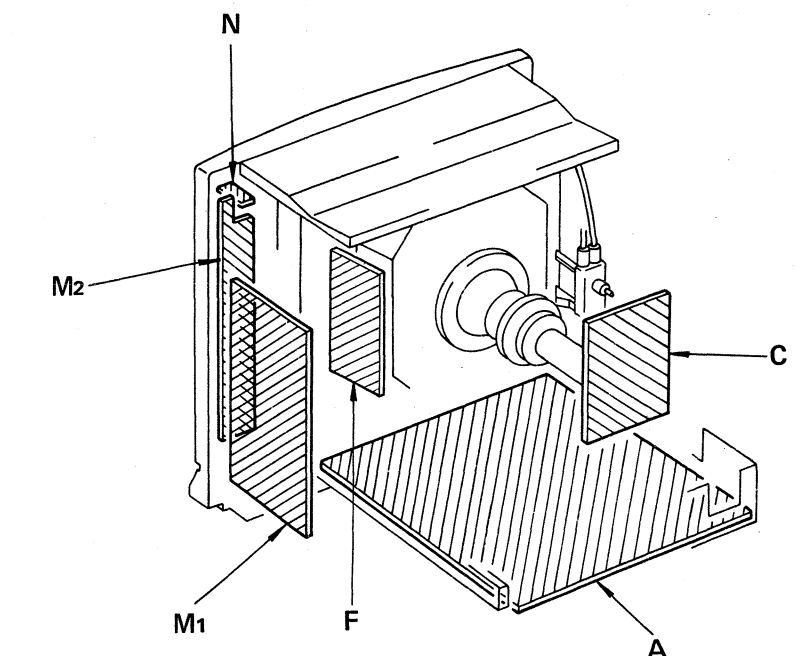


### 3-1. BLOCK DIAGRAM



This diagram shows an exploded view of a magnetic tape drive assembly. The components are labeled as follows:

- N**: A vertical support or frame member at the top.
- M2**: A vertical component, likely a motor or actuator, mounted on the side.
- M1**: A vertical component, likely a motor or actuator, mounted on the side.
- F**: A vertical component, likely a film or tape support, mounted on the side.
- C**: A horizontal component, likely a cassette or tape holder, mounted on the side.
- A**: A horizontal component, likely a tape reel or drum, mounted on the side.

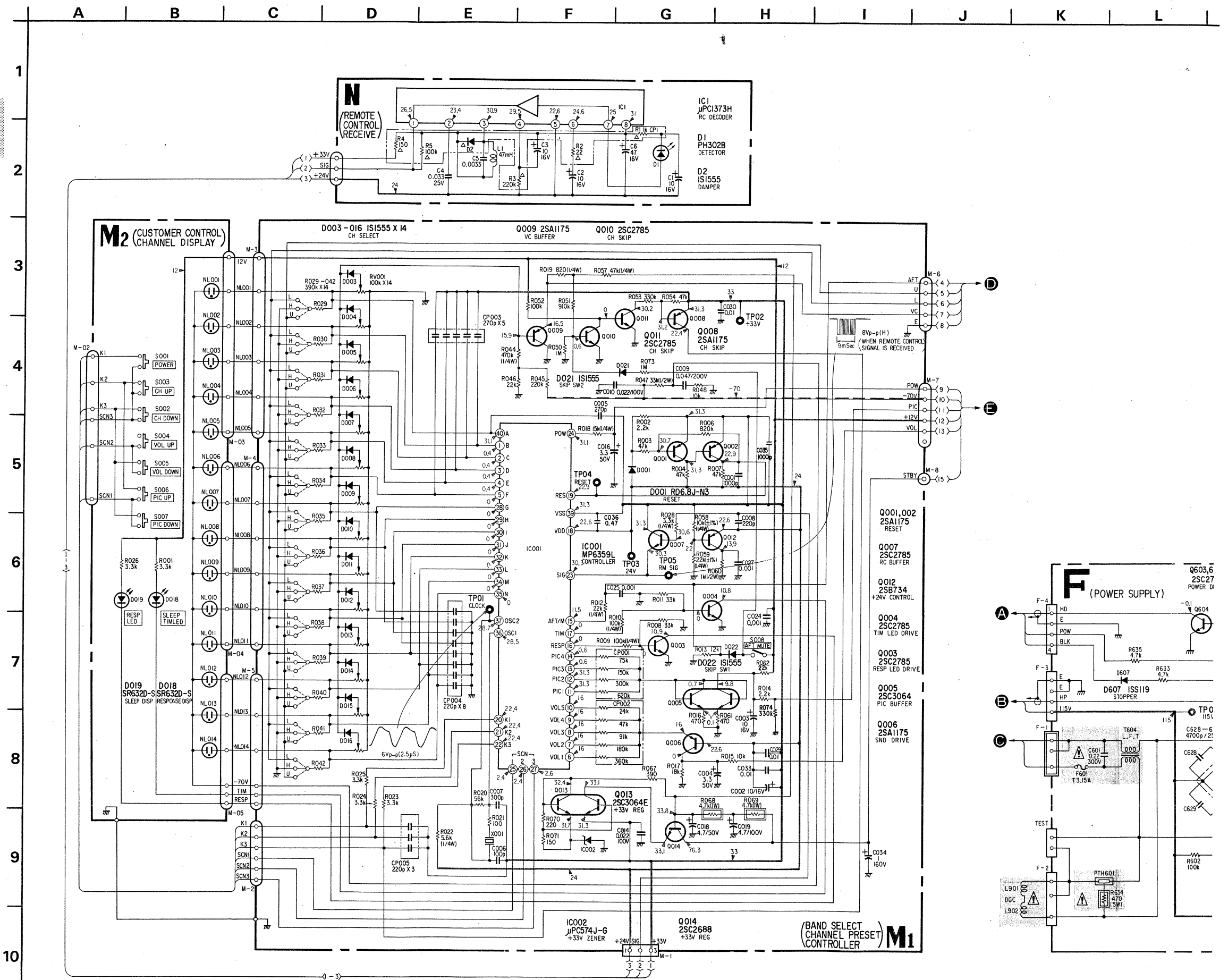


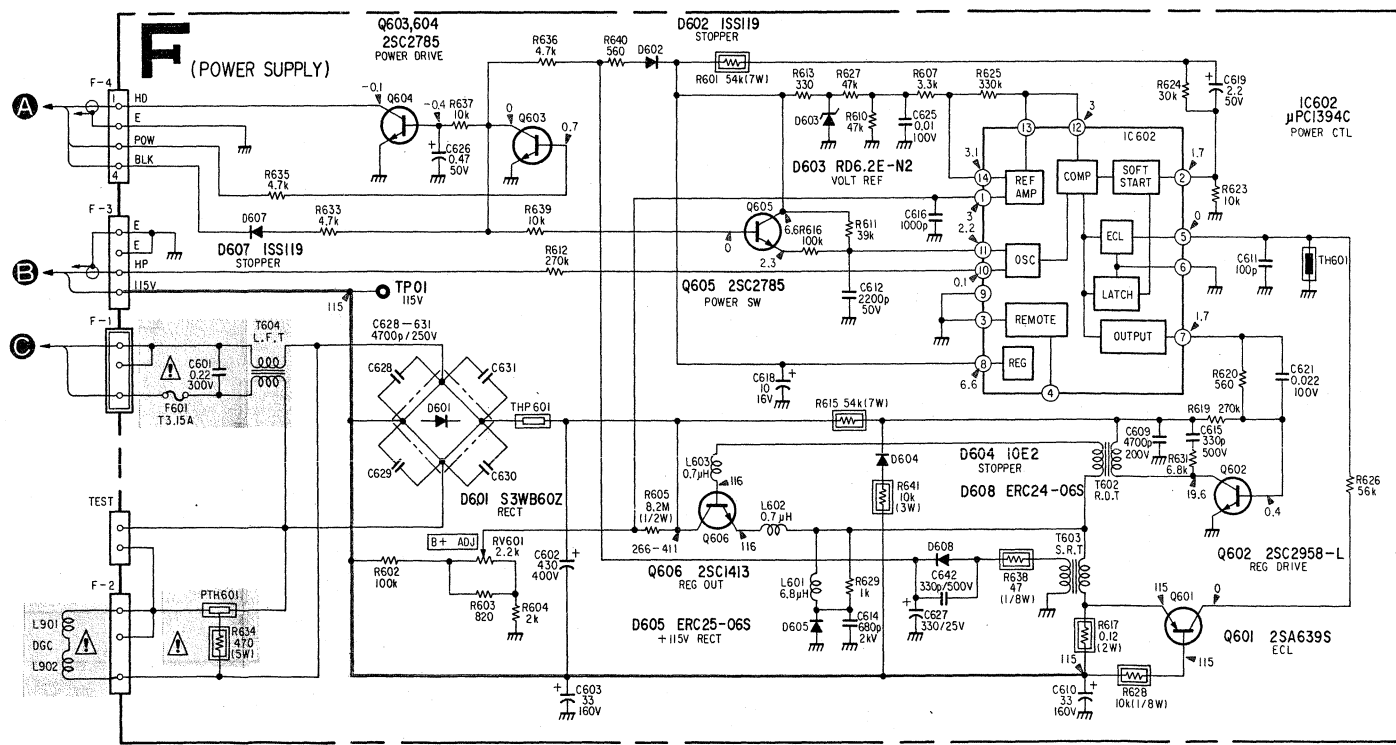
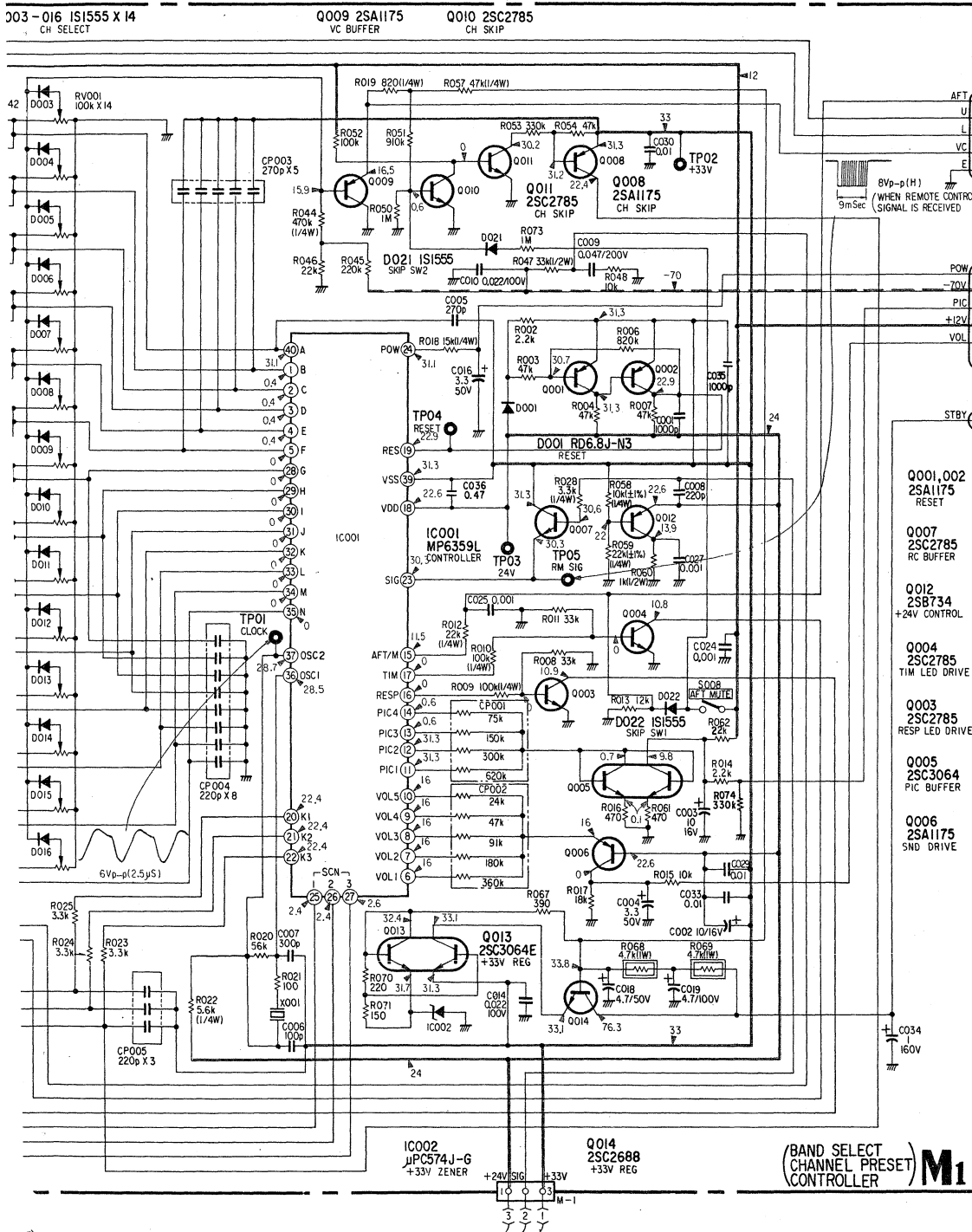
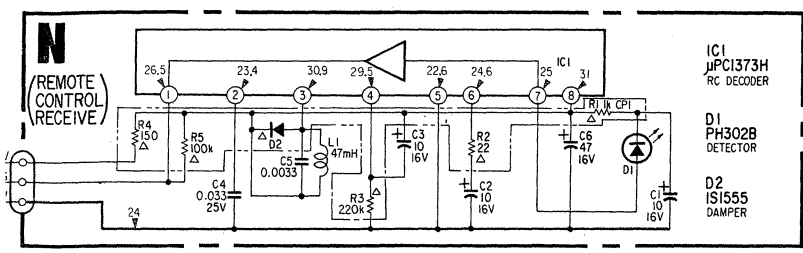
### 3-3. SCHEMATIC DIAGRAM

Note: The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

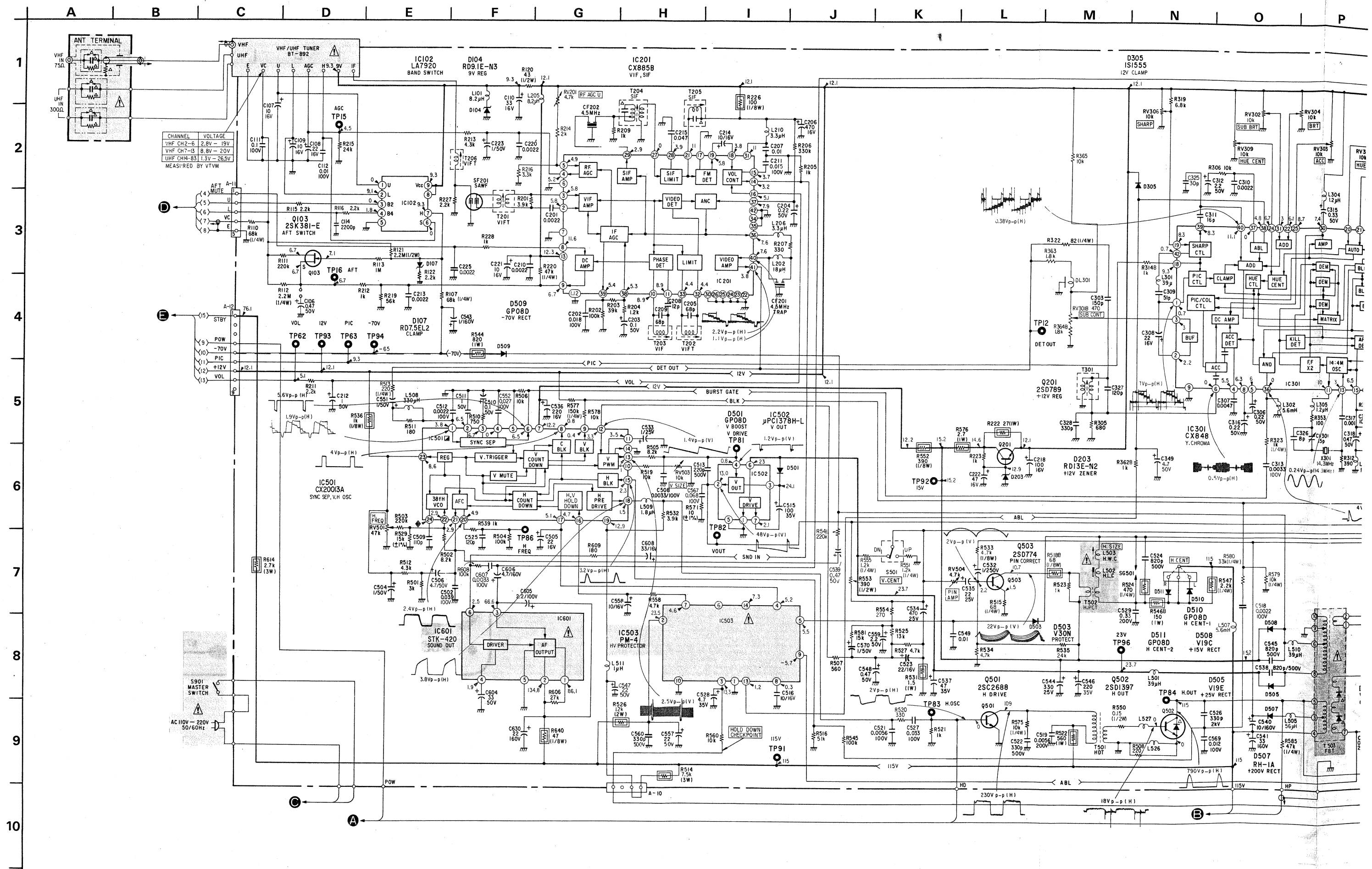
#### Note:

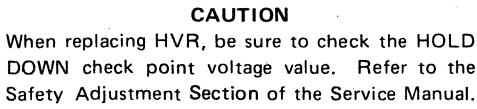
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms,  $\frac{1}{4}$  W unless otherwise noted. k: 1000  $\Omega$ , M: 1000 k $\Omega$ .
- W**: nonflammable resistor.
- $\Delta$ : internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- Readings are taken with a color-bar signal input.
- : B + bus.
- - -: B - bus.
- Voltage variations may be noted due to normal production tolerances.
- Waveforms and voltage values are taken with 110V AC input.
- : adjustment for repair.
- Voltages on M1, and A board are taken under conditions below.
  - CH-3 (VHF LOW) signal is received.
  - VOLUME control at initial.
  - PICTURE control at initial.
 (The first stage is the conditions when the MASTER and POWER switches set to ON.)
- The hold down check point is the cross-point of R560 and A-10 connector.
- Do not touch pin (24) of IC501 marked **A** on A board with probe of digital multimeter. It will result in off position of the set.







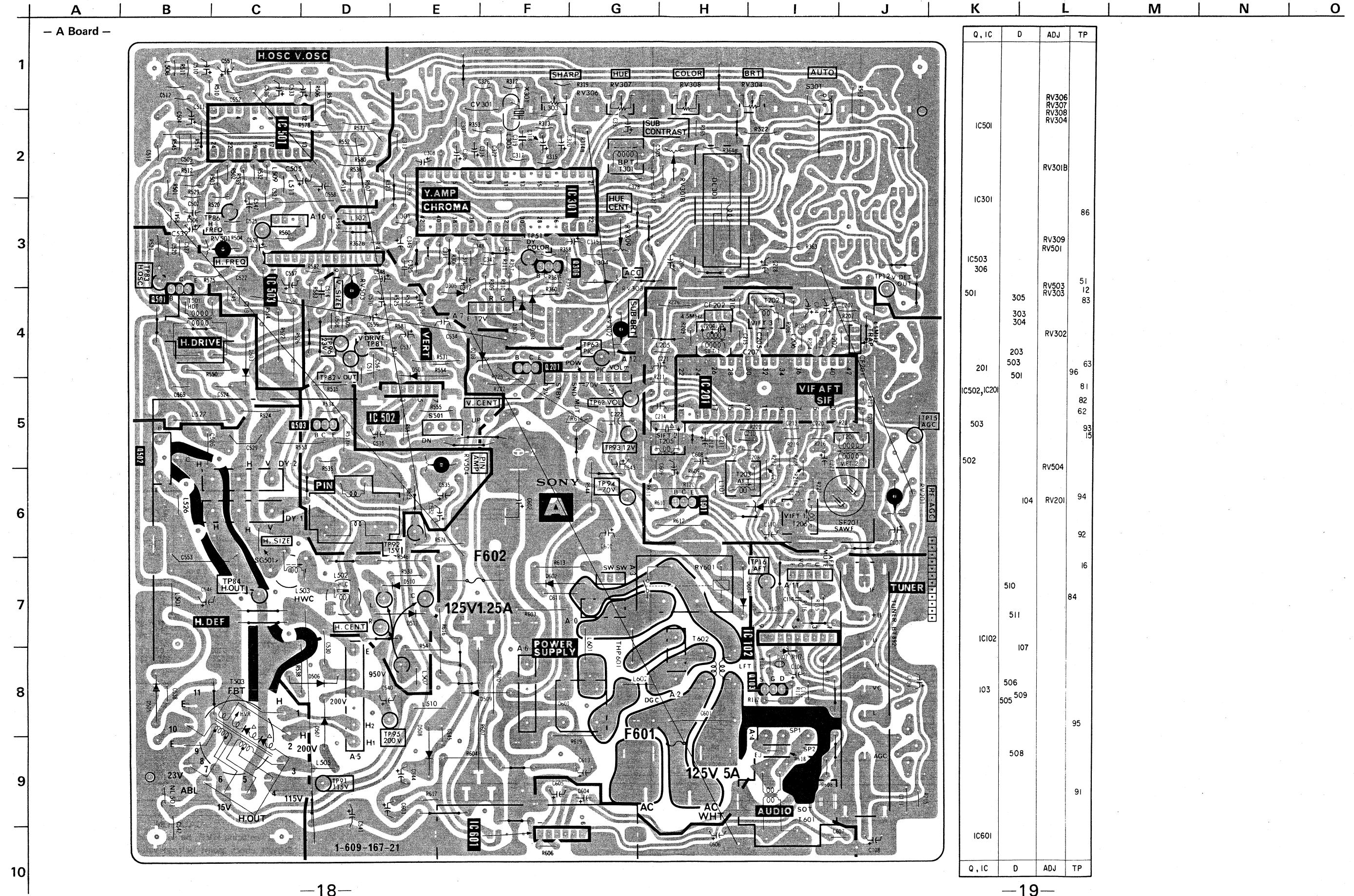






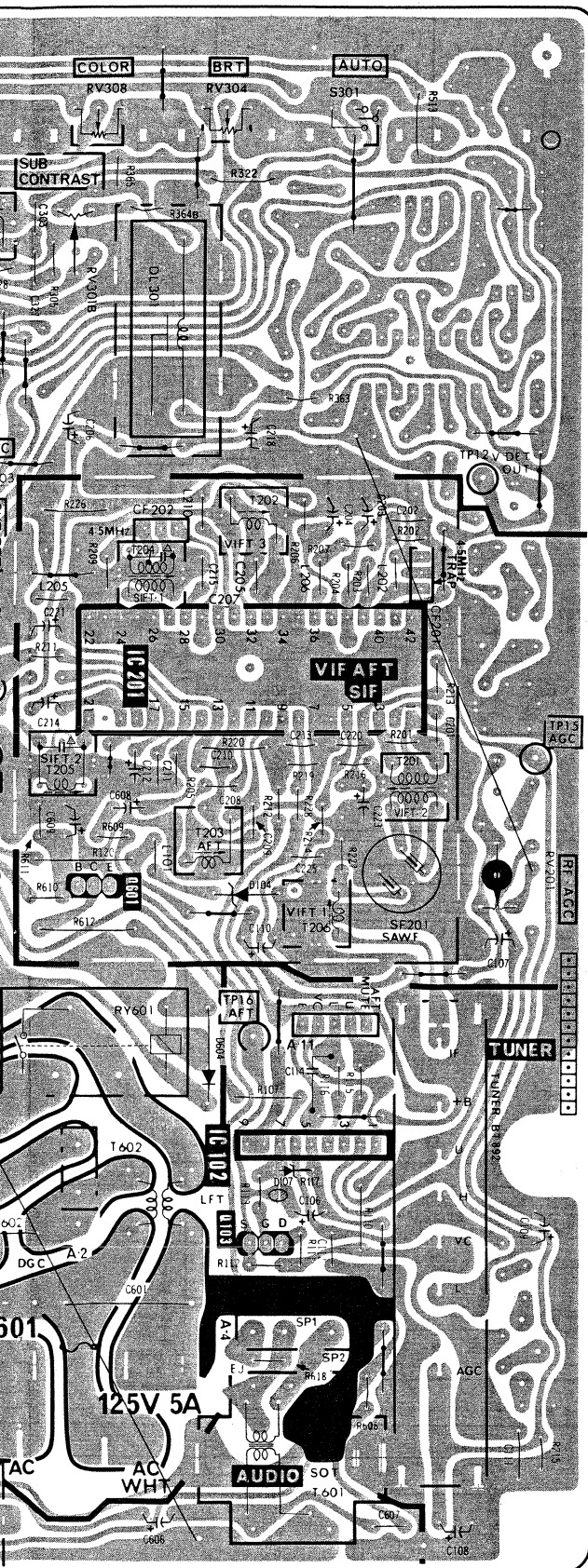
**A** VIF, SIF, Y AMP, DYNAMIC PIC,  
 SYNC SEP, V · H OSC, V · H OUT, AF OUT,  
 CUSTOMER CONTROL.

3-4. PRINTED WIRING BOARD  
 — Conductor Side —

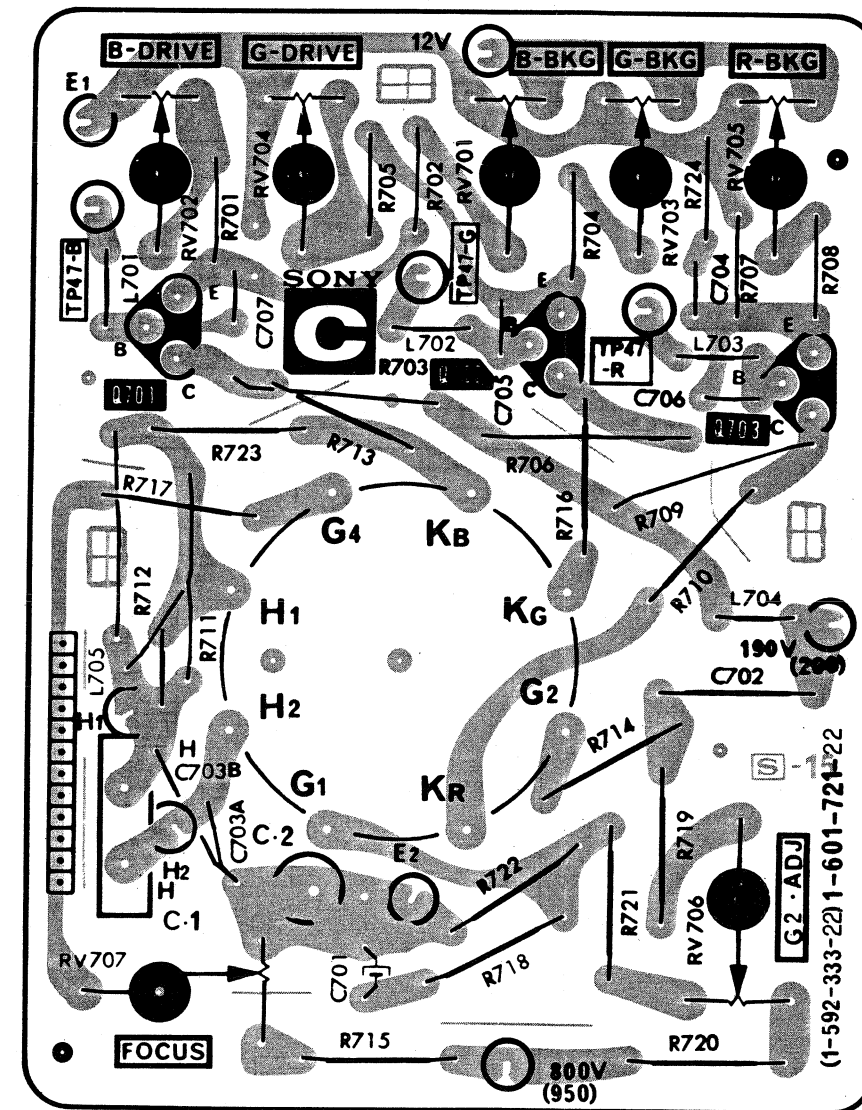


Q, IC	D	ADJ	TP
IC501		RV306 RV307 RV308 RV304	
IC301		RV301B	
IC503 306		RV309 RV501	86
501	305 303 304	RV503 RV303	51 12 83
201	203 503 501	RV302	63 96
IC502, IC201			81 82 62
503			93 15
502		RV504	
	104	RV201	94
			92
			16
	510		84
	511		
IC102	107		
103	506 505		95
	508		
IC601			91

Q, IC	D	ADJ	TP
-------	---	-----	----



— C Board —





**M1**

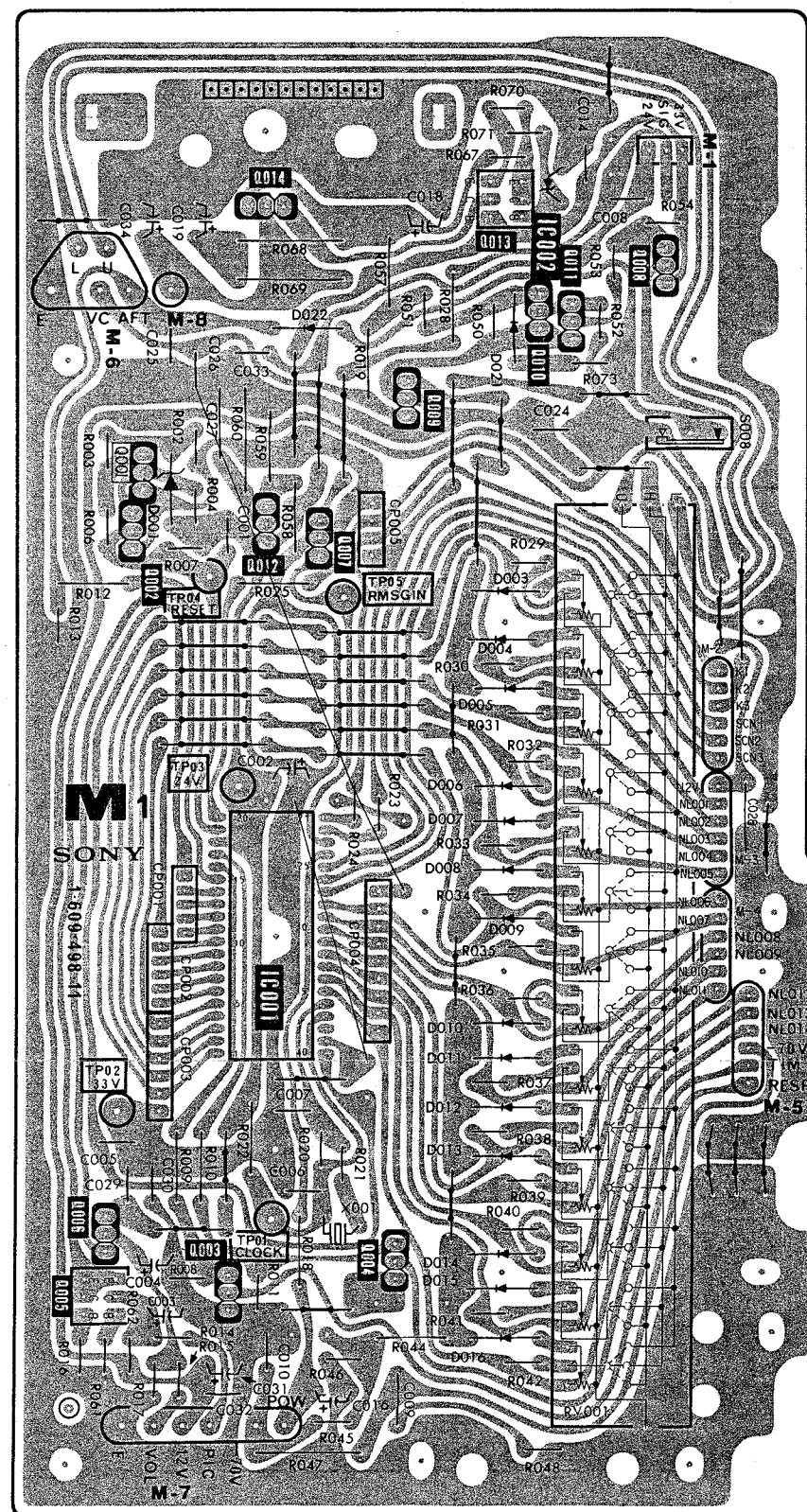
BAND SELECT,  
CHANNEL PRESET,  
CONTROLLER

**N**

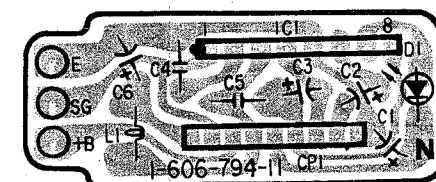
[REMOTE CONTROL RECEIVE]

— M1 Board —

IC, Q	D	TP
IC002 013 014		
008		
010, 011	022, 021	
009		
001	001	
002, 012, 007		
	003	05 04
	004	
	005	
	006	03
	007	
	008	
IC001	009	
	010	
	011	02
	012	
	013	
006		
004	014	01
005, 003	015	
	016	
IC, Q	D	TP



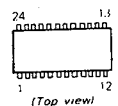
— N Board —



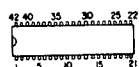


### 3-5. SEMICONDUCTORS

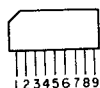
**CX20013A**



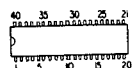
**CX848  
CX885B**



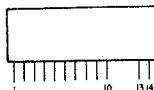
**LA7920**



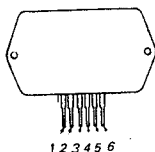
**MP6359L**



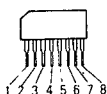
**PM-4**



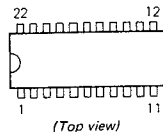
**STK-420**



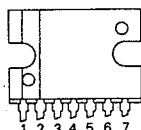
**μPC1373H**



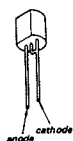
**μPC1377C**



**μPC1378H-L**



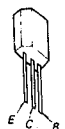
**μPC574J-G**



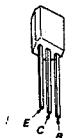
**2SA1015  
2SA639S  
2SA733  
2SC1815  
2SC2551  
2SC945  
JC501**



**2SA1026**



**2SA1048  
2SA1115  
2SC2458  
2SC2603**



**2SA1175  
2SC2785**



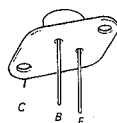
**2SB734  
2SC2958  
2SD774**



**2SB740  
2SC2610BK  
2SD789**



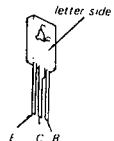
**2SC1413**



**2SC2278**



**2SC2688**



**2SC3064**



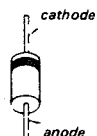
**2SD1398**



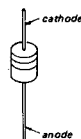
**2SK381-E**



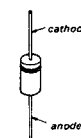
**1S1555  
1S2076  
1S2473  
1SS133  
RD13E-B2  
RD6.8J-N3  
RD9.1E-N3**



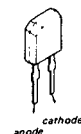
**1SS119  
1SS148**



**GP08D**



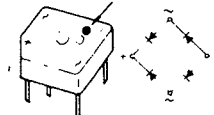
**PH302B**



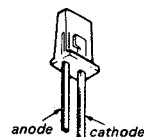
**RH1A**



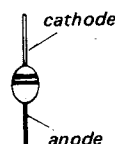
**S3WB60Z  
Marking**



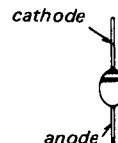
**SR632D-R**



**U05E  
U05G**

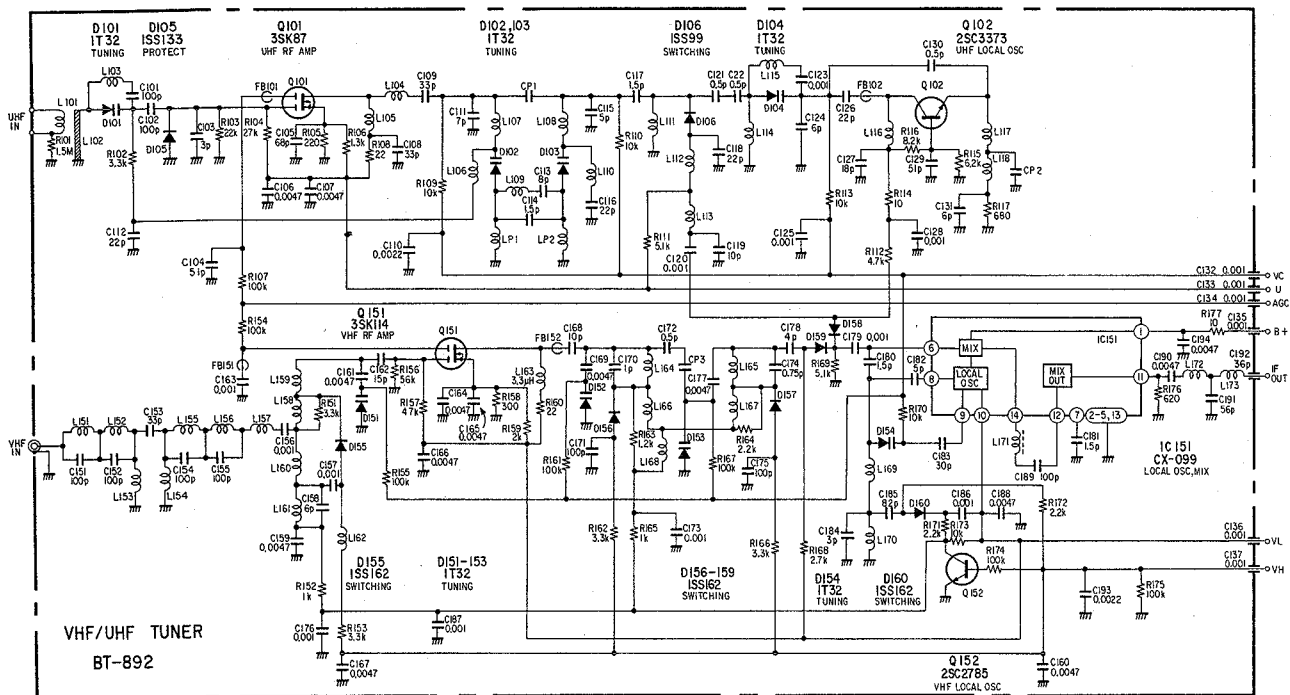


**V09C  
V19C  
V19E  
V30N**



### 3-6. UHF/VHF TUNER SCHEMATIC DIAGRAM

• BT-892



Note: Tuner reference numbers are not included in the Electrical Parts List.



## SECTION 4 EXPLODED VIEWS

### NOTE:

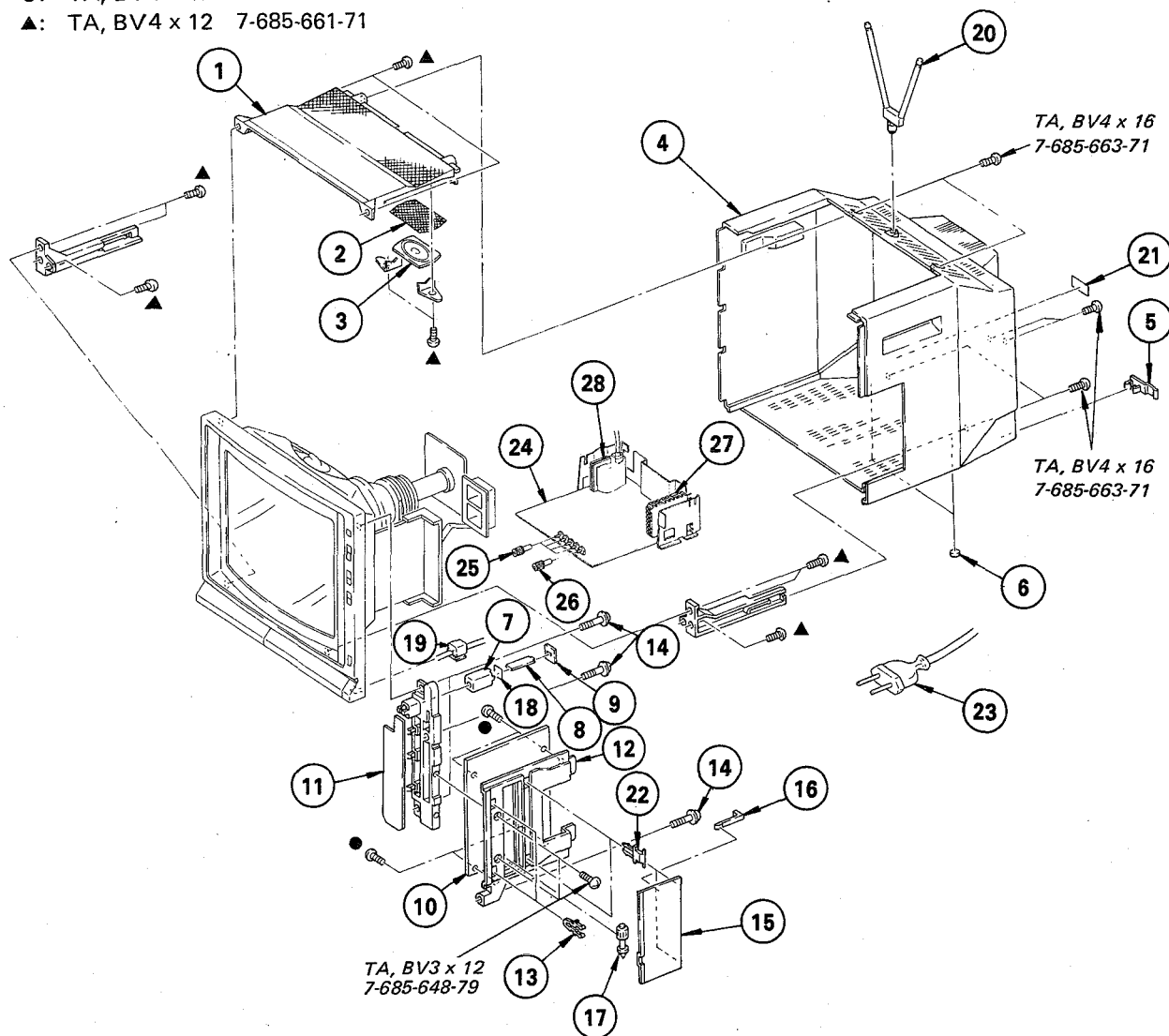
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

### (1) BACK COVER

- : TA, BV3 x 12 7-685-648-71
- ▲: TA, BV4 x 12 7-685-661-71



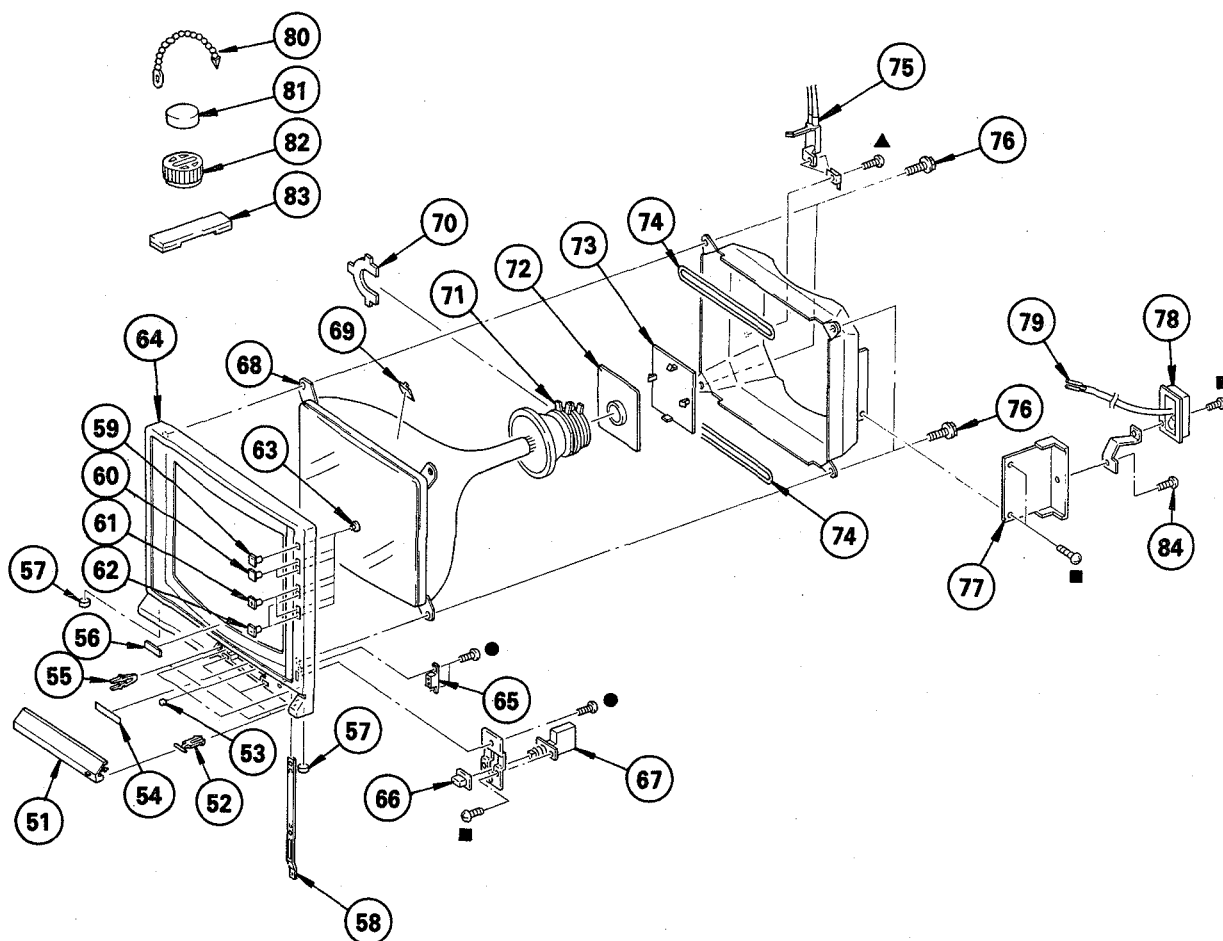
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4365-606-2	PLATE ASSY, TOP		15	X-4365-601-0	DOOR ASSY, PRESET	16
2	4-365-610-00	SHEET, DUST PROTECTION		16	4-331-703-00	KNOB, AFT	
3	1-502-882-00	SPEAKER		17	4-365-250-00	SCREWDRIVER, PRESET	
4	X-4365-607-0	COVER ASSY, BACK	5, 6	18	▲4-333-624-00	FILM (N), SPECIAL	
5	4-329-127-00	CLAMP, CORD		19	▲4-316-102-04	HOLDER, AC CORD	
6	4-846-456-11	FOOT, FELT		20	1-501-276-00	ANTENNA, TELESCOPIC (AN-18)	
7	▲4-342-117-11	CASE, SHIELD (MAIN), R		21	▲4-365-648-00	LABEL, MODEL NUMBER	
8	▲1-606-794-00	N BOARD		22	3-703-035-11	SHAFT, LID	
9	▲4-342-118-00	LID, SHIELD CASE, R		23	▲1-556-198-11	CORD, POWER	
10	▲A-1301-466-A	M1 BOARD, COMPLETE		24	▲A-1295-703-A	A BOARD, COMPLETE	
11	▲1-609-499-00	M2 BOARD		25	4-365-226-01	KNOB, VR	
12	X-4365-603-0	PANEL ASSY, CONTROL, PRESET	13	26	4-365-226-11	KNOB, VR	
13	3-703-574-00	RETAINER, DOOR		27	▲1-463-445-00	TUNER, ET (BT-892)	
14	4-319-520-00	SCREW, SPECIAL (+PW4X30)		28	▲1-439-250-21	TRANSFORMER ASSY, FLYBACK	

## (2) BEZEL

■: TA, BV3 x 8 7-685-646-71

●: TA, BV3 x 12 7-685-648-71

▲: TA, BV4 x 12 7-685-661-71



No.	Part No.	Description
51	4-365-624-00	DOOR, CONTROL
52	3-703-035-11	SHAFT, LID
53	4-314-871-00	CUSHION
54	4-365-227-11	LABEL, SUB CONTROL
55	3-703-574-00	RETAINER, DOOR
56	3-701-933-00	EMBLEM, SONY, (MIDDLE)
57	4-846-456-11	FOOT, FELT
58	X-4365-602-0	HOLDER ASSY, LABEL
59	4-365-612-00	PUSH BUTTON (A)
60	4-365-613-00	PUSH BUTTON (B)
61	4-365-614-00	PUSH BUTTON (C)
62	4-365-615-00	PUSH BUTTON (D)
63	4-365-220-00	STOPPER, BUTTON
64	X-4365-604-2	BEZEL ASSY
65	1-507-372-00	JM-35 DOUBLE JACK
66	4-333-101-00	PUSH BUTTON
67	1-554-538-11	SWITCH, PUSH (AC POWER)

Remark	No.	Part No.	Description	Remark
	68	▲ 8-739-605-05	CRT 400EH22	
	69	3-703-003-00	SPACER, DY	
	70	1-452-146-00	MAGNET, BMC	
	71	▲ 1-451-179-22	DEFLECTION YOKE (SY-92C)	
	72	▲ A-1330-422-A	C BOARD, COMPLETE	
	73	4-335-329-00	INSULATOR, C PC BOARD	
	74	▲ 1-425-923-62	COIL, DEGAUSSING	
	75	▲ 1-228-482-24	RESISTOR ASSY, HIGH-VOLTAGE	
	76	4-307-249-00	SCREW, TAPPING (5X20)	
	77	▲ A-1245-201-A	F BOARD, COMPLETE	
	78	▲ 1-536-592-41	TERMINAL BOARD ASSY, ANTENNA	
	79	1-534-764-00	FEEDER WITH TERMINAL	
	80	4-308-870-00	CLIP, LEAD WIRE	
	81	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	82	1-452-094-00	MAGNET, DISK, ROTATABLE; 15MM ϕ	
	83	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
	84	4-303-483-00	HEAD, WASHER, TAPPING SCREW	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

## SECTION 5

### ELECTRICAL PARTS LIST

## NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

• Items marked "A" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS  
• MF :  $\mu$ F, PF :  $\mu$ PF

RESISTORS  
• All resistors are in ohms  
• F : nonflammable

COILS  
• MMH : mH, UH :  $\mu$ H

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
	▲:A-1245-201-A	F BOARD, COMPLETE *****				<u>COIL</u>	
	▲:1-506-348-XX	3P PLUG (L)		L601	1-408-300-00	MICRO INDUCTOR 6.8UH	
	▲:1-508-766-00	4P PLUG (M)		L602	1-407-365-00	COIL, CHOKE 0.7UH	
	▲:1-508-786-00	2P PLUG (M)		L603	1-407-365-00	COIL, CHOKE 0.7UH	
	▲:1-533-146-00	HOLDER, FUSE		L604	1-407-365-00	COIL, CHOKE 0.7UH	
		<u>CAPACITOR</u>				<u>THERMISTOR</u>	
C601	▲ 1-108-745-00	MYLAR 0.22MF 20% 300V		▲PTH601	1-800-820-00	THERMISTOR, POWER	
C602	1-125-287-00	ELECT (BLOCK) 430MF 400V				<u>TRANSISTOR</u>	
C603	1-123-024-00	ELECT 33MF 160V		Q601	8-729-163-93	TRANSISTOR 2SA639S	
C609	1-108-688-11	MYLAR 0.0047MF 10% 200V		Q602	8-729-195-82	TRANSISTOR 2SC2958	
C610	1-123-024-00	ELECT 33MF 160V		Q603	8-729-178-54	TRANSISTOR 2SC2785	
C611	1-102-973-00	CERAMIC 100PF 5% 50V		Q604	8-729-178-54	TRANSISTOR 2SC2785	
C612	1-108-563-00	MYLAR 0.0022MF 5% 50V		Q605	8-729-178-54	TRANSISTOR 2SC2785	
C614	1-102-249-00	CERAMIC 680PF 20% 2KV		Q606	8-729-341-34	TRANSISTOR 2SC1413A	
C615	1-102-030-00	CERAMIC 330PF 10% 500V			3-701-353-00	SPACER, MICA, Q606	
C616	1-101-001-00	CERAMIC 0.001MF 50V			3-703-320-00	BUSHING (A), TRANSISTOR, Q606	
C618	1-123-316-51	ELECT 10MF 20% 16V		▲:4-350-806-00	BRACKET, TRANSISTOR, Q606		
C619	1-123-381-00	ELECT 2.2MF 20% 50V				<u>RESISTOR</u>	
C621	1-108-381-00	MYLAR 0.022MF 10% 100V		R601	1-205-687-00	CEMENTED 54K 10% 7W	
C625	1-108-377-00	MYLAR 0.01MF 10% 100V		R602	1-247-879-00	CARBON 100K 5% 1/6W	
C626	1-123-351-51	ELECT 0.47MF 20% 50V		R603	1-247-829-00	CARBON 820 5% 1/6W	
C627	1-123-335-00	ELECT 330MF 20% 25V		R604	1-247-838-00	CARBON 2K 5% 1/6W	
C628	1-161-964-00	CERAMIC 0.0047MF 250V		R605	1-202-667-00	SOLID 8.2M 10% 1/2W	
C629	1-161-964-00	CERAMIC 0.0047MF 250V		R607	1-247-843-00	CARBON 3.3K 5% 1/6W	
C630	1-161-964-00	CERAMIC 0.0047MF 250V		R608	1-247-865-00	CARBON 27K 5% 1/6W	
C631	1-161-964-00	CERAMIC 0.0047MF 250V		R610	1-247-871-00	CARBON 47K 5% 1/6W	
C642	1-102-030-00	CERAMIC 330PF 10% 500V		R611	1-247-869-00	CARBON 39K 5% 1/6W	
C643	1-102-219-00	CERAMIC 680PF 20% 1KV		R612	1-247-889-00	CARBON 270K 5% 1/6W	
		<u>DIODE</u>		R613	1-247-819-00	CARBON 330 5% 1/6W	
D601	8-719-503-06	DIODE S3WB60Z		R615	1-205-687-00	CEMENTED 54K 10% 7W	
D602	8-719-911-19	DIODE 1SS119		R616	1-247-879-00	CARBON 100K 5% 1/6W	
D603	8-719-102-74	DIODE RD6.2E-N2		R617	1-207-904-00	WIREWOUND 0.12 10% 2W	F
D604	8-719-200-02	DIODE 10E2		R619	1-247-889-00	CARBON 270K 5% 1/6W	
D605	8-719-925-06	DIODE ERC25-06S		R620	1-247-825-00	CARBON 560 5% 1/6W	
D607	8-719-911-19	DIODE 1SS119		R623	1-247-855-00	CARBON 10K 5% 1/6W	
D608	8-719-924-06	DIODE ERC24-06S		R624	1-247-866-00	CARBON 30K 5% 1/6W	
		<u>CONNECTOR</u>		R625	1-247-891-00	CARBON 330K 5% 1/6W	
F2	▲:1-508-765-00	3P PLUG (M)		R626	1-247-873-00	CARBON 56K 5% 1/6W	
F4	▲:1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P		R627	1-247-871-00	CARBON 47K 5% 1/6W	
		<u>FUSE</u>		R628	1-246-795-00	CARBON 10K 5% 1/8W	
F601	▲ 1-532-237-11	FUSE, TIME-LAG		R629	1-247-831-00	CARBON 1K 5% 1/6W	
		<u>IC</u>		R631	1-247-851-00	CARBON 6.8K 5% 1/6W	
IC602	8-759-100-75	IC UPC1394C		R633	1-247-847-00	CARBON 4.7K 5% 1/6W	
				R634	▲ 1-206-779-00	METAL OXIDE 470 5% 5W	F
				R635	1-247-847-00	CARBON 4.7K 5% 1/6W	
				R636	1-247-847-00	CARBON 4.7K 5% 1/6W	
				R637	1-247-855-00	CARBON 10K 5% 1/6W	



Ref.No	Part No.	Description	Remark
R638	1-246-987-11	CARBON 47 5% 1/8W	F
R639	1-247-855-00	CARBON 10K 5% 1/6W	
R640	1-247-825-00	CARBON 560 5% 1/6W	
R641	1-206-749-00	METAL OXIDE 10K 5% 3W	F

#### VARIABLE RESISTOR

RV601	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K	
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#### TRANSFORMER

T602	1-446-194-00	TRANSFORMER, CHOPPER DRIVE	
T603	1-421-605-00	TRANSFORMER, FERRITE (SRT)	
T604	1-441-855-11	TRANSFORMER, HEATER INSULATION	

#### THERMISTOR

TH601	1-800-945-00	THERMISTOR S-10K	
THP601	1-800-686-31	THERMISTOR (POSITIVE)	

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▲:1-606-794-00 N BOARD  
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#### CAPACITOR

C1	1-123-617-00	ELECT 10MF 20% 16V	
C2	1-123-617-00	ELECT 10MF 20% 16V	
C3	1-123-617-00	ELECT 10MF 20% 16V	
C4	1-161-019-00	CERAMIC 0.033MF 10% 25V	
C5	1-108-567-00	MYLAR 0.0033MF 5% 50V	

C6	1-123-821-00	ELECT 47MF 20% 16V	
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#### DIODE

D1	8-719-110-32	DIODE PH302B	
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#### IC

IC1	8-759-113-73	IC UPC1373H	
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#### COIL

L1	1-404-310-00	COIL 47MMH	
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▲:A-1295-703-A A BOARD, COMPLETE  
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- ▲:1-506-371-00 2P PLUG (L)
- ▲:1-508-915-11 PLUG, 1P
- ▲:1-551-922-00 CONNECTOR ASSY 3P
- ▲:1-556-108-00 CONNECTOR, MINIATURE 1P
- ▲:1-556-390-00 CONNECTOR ASSY, MINIATURE 4P
- ▲:1-556-654-00 CONNECTOR ASSY (2.5MM) 4P
- ▲:4-334-952-00 CASE (C), SHIELD
- ▲:4-350-807-00 CASE (MAIN), SHIELD, VIF
- 4-365-216-00 SPACER, MICA
- ▲:4-365-232-00 LID, UPPER, SHIELD CASE, VIF

Ref.No	Part No.	Description	Remark
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▲:4-365-233-00 LID, BOTTOM, SHIELD CASE, VIF

#### CONNECTOR

A4	▲:1-508-766-00	4P PLUG (M)	
A5	▲:1-508-768-00	6P PLUG	
A7	▲:1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P	
A10	▲:1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P	
A11	▲:1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P	
A12	▲:1-560-129-00	PLUG, CONNECTOR (2.5MM) 9P	

#### CAPACITOR

C106	1-123-379-00	ELECT 0.47MF 20% 50V	
C107	1-123-356-00	ELECT 10MF 20% 16V	
C108	1-123-330-00	ELECT 22MF 20% 16V	
C109	1-123-356-00	ELECT 10MF 20% 16V	
C110	1-123-318-00	ELECT 33MF 20% 16V	
C112	1-108-377-00	MYLAR 0.01MF 10% 100V	
C114	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C201	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C202	1-108-380-00	MYLAR 0.018MF 10% 100V	
C203	1-123-586-00	ELECT 0.1MF 20% 50V	
C204	1-123-447-00	ELECT 0.22MF 20% 50V	
C205	1-102-525-00	CERAMIC 68PF 5% 50V	
C206	1-123-323-00	ELECT 470MF 20% 16V	
C207	1-101-004-00	CERAMIC 0.01MF 50V	
C208	1-102-510-00	CERAMIC 12PF 5% 50V	
C209	1-102-494-00	CERAMIC 68PF 5% 50V	
C210	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C211	1-108-379-00	MYLAR 0.015MF 10% 100V	
C212	1-123-380-00	ELECT 1MF 20% 50V	
C213	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C214	1-123-356-00	ELECT 10MF 20% 16V	
C215	1-101-006-00	CERAMIC 0.047MF 50V	
C218	1-123-333-00	ELECT 100MF 20% 16V	
C220	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C221	1-123-356-00	ELECT 10MF 20% 16V	
C222	1-123-332-00	ELECT 47MF 20% 16V	
C223	1-123-380-00	ELECT 1MF 20% 50V	
C225	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C303	1-102-108-00	CERAMIC 150PF 10% 50V	
C306	1-123-447-00	ELECT 0.22MF 20% 50V	
C307	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
C308	1-123-330-00	ELECT 22MF 20% 16V	
C309	1-101-882-00	CERAMIC 51PF 5% 50V	
C310	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C311	1-102-952-00	CERAMIC 16PF 5% 50V	
C312	1-123-381-00	ELECT 2.2MF 20% 50V	
C313	1-108-371-00	MYLAR 0.0033MF 10% 100V	
C315	1-123-286-00	ELECT 0.33MF 20% 50V	
C316	1-123-447-00	ELECT 0.22MF 20% 50V	
C317	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C318	1-123-379-00	ELECT 0.47MF 20% 50V	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark				
C319	1-121-806-00	ELECT	10MF	16V	C549	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C320	1-123-379-00	ELECT	0.47MF	20%	50V	C551	1-123-228-00	ELECT	1MF	20%	50V
C322	1-101-004-00	CERAMIC	0.01MF	50V	C552	1-108-382-00	MYLAR	0.027MF	10%	100V	
C325	1-102-962-00	CERAMIC	30PF	5%	50V	C553	1-130-912-00	FILM	0.0094MF	3%	1.2KV
C326	1-102-865-00	CERAMIC	8PF	0.5PF	50V	C557	1-123-357-00	ELECT	22MF	20%	50V
C327	1-102-816-00	CERAMIC	120PF	5%	50V	C558	1-123-356-00	ELECT	10MF	20%	16V
C328	1-102-112-00	CERAMIC	330PF	10%	50V	C559	1-123-381-00	ELECT	2.2MF	20%	50V
C330	1-123-333-00	ELECT	100MF	20%	16V	C560	1-102-030-00	CERAMIC	330PF	10%	500V
C346	1-101-888-00	CERAMIC	68PF	5%	50V	C567	1-108-387-00	MYLAR	0.068MF	10%	100V
C347	1-101-888-00	CERAMIC	68PF	5%	50V	C569	1-108-378-00	MYLAR	0.012MF	10%	100V
C348	1-101-888-00	CERAMIC	68PF	5%	50V	C570	1-123-380-00	ELECT	1MF	20%	50V
C349	1-123-369-00	ELECT	4.7MF	20%	50V	C604	1-123-358-00	ELECT	33MF	20%	50V
C502	1-108-384-00	MYLAR	0.039MF	10%	100V	C605	1-123-381-00	ELECT	2.2MF	20%	100V
C504	1-123-380-00	ELECT	1MF	20%	50V	C606	1-121-246-00	ELECT	4.7MF	160V	
C505	1-123-330-00	ELECT	22MF	20%	16V	C607	1-108-371-00	MYLAR	0.0033MF	10%	100V
C506	1-123-369-00	ELECT	4.7MF	20%	50V	C608	1-123-318-00	ELECT	33MF	20%	16V
C508	1-108-371-00	MYLAR	0.0033MF	10%	100V	C630	1-123-253-00	ELECT	22MF	160V	
C509	1-102-922-00	CERAMIC	110PF	5%	50V						
C510	1-123-586-00	ELECT	0.1MF	20%	50V						
C511	1-108-367-00	MYLAR	0.0015MF	10%	100V						
C512	1-108-369-00	MYLAR	0.0022MF	10%	100V						
C513	1-102-244-00	CERAMIC	220PF	10%	500V						
C515	1-123-345-00	ELECT	100MF	20%	35V						
C516	1-121-259-51	ELECT	10MF	16V							
C518	1-108-369-00	MYLAR	0.0022MF	10%	100V						
C519	1-108-689-11	MYLAR	0.0056MF	10%	200V						
C521	1-108-374-00	MYLAR	0.0056MF	10%	100V						
C522	1-102-030-00	CERAMIC	330PF	10%	500V						
C523	1-123-584-00	ELECT	22MF	10%	16V						
C524	1-102-212-00	CERAMIC	820PF	10%	500V						
C525	1-102-530-00	CERAMIC	120PF	5%	50V						
C526	1-162-115-00	CERAMIC	330PF	10%	2KV						
C527	1-108-383-00	MYLAR	0.033MF	10%	100V						
C528	1-131-351-00	TANTALUM	4.7MF	20%	35V						
C529	1-130-684-00	FILM	0.33MF	5%	200V						
C530	1-102-223-00	CERAMIC	0.0047MF	20%	1.6KV						
C532	1-123-003-00	ELECT	1MF	25V							
C533	1-131-498-00	TANTALUM	1MF	10%	25V						
C534	1-123-585-00	ELECT	470MF	10%	25V						
C535	1-123-330-00	ELECT	22MF	20%	25V						
C536	1-123-321-00	ELECT	220MF								

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**A**

Ref.No Part No. Description

IC

IC102 8-759-800-12 IC LA7920  
IC201 8-758-852-00 IC CX885B  
IC301 8-758-480-00 IC CX848  
IC501 8-752-001-31 IC CX20013A  
IC502 8-759-113-78 IC UPC1378H-L

△IC503 1-235-223-11 PROTECTOR MODULE PM-4  
△IC601 8-749-942-00 IC STK420

COIL

L101 1-408-408-00 MICRO INDUCTOR 8.2UH  
L202 1-408-412-00 MICRO INDUCTOR 18UH  
L205 1-408-408-00 MICRO INDUCTOR 8.2UH  
L206 1-408-403-00 MICRO INDUCTOR 3.3UH  
L210 1-408-403-00 MICRO INDUCTOR 3.3UH

L301 1-408-416-00 MICRO INDUCTOR 39UH  
L302 1-408-163-00 MICRO INDUCTOR 5.6MMH  
L303 1-408-398-00 MICRO INDUCTOR 1.2UH  
L304 1-408-398-00 MICRO INDUCTOR 1.2UH  
L305 1-408-398-00 MICRO INDUCTOR 1.2UH

L501 1-408-348-00 MICRO INDUCTOR 39UH  
L502 △ 1-459-295-11 COIL, FERRITE (HLC)  
L503 △ 1-459-292-11 COIL, FERRITE (HWC)  
L505 1-407-166-XX MICRO INDUCTOR 56UH  
L507 1-407-501-00 MICRO INDUCTOR 5.6MMH

L508 1-408-427-00 MICRO INDUCTOR 330UH  
L509 1-408-400-00 MICRO INDUCTOR 1.8UH  
L510 1-408-348-00 MICRO INDUCTOR 39UH  
L511 1-407-178-XX MICRO INDUCTOR 1UH  
L526 1-407-365-00 COIL, CHOKE 0.74UH

L527 1-408-349-00 COIL, CHOKE 1UH

NEON LAMP

NL501 1-519-108-XX LAMP, NEON

TRANSISTOR

Q103 8-729-600-08 TRANSISTOR 2SK381-E  
Q201 8-729-177-43 TRANSISTOR 2SD774  
Q306 8-729-178-54 TRANSISTOR 2SC2785  
Q501 8-729-168-82 TRANSISTOR 2SC2688  
Q502 8-729-800-35 TRANSISTOR 2SD1397

Q503 8-729-177-43 TRANSISTOR 2SD774

RESISTOR

R107 1-247-875-00 CARBON 68K 5% 1/6W  
R110 1-246-517-00 CARBON 68K 5% 1/4W  
R111 1-247-887-00 CARBON 220K 5% 1/6W  
R112 1-202-463-00 SOLID 2.2M 5% 1/4W  
R113 1-247-903-00 CARBON 1M 5% 1/6W

R115 1-247-839-00 CARBON 2.2K 5% 1/6W  
R116 1-247-839-00 CARBON 2.2K 5% 1/6W

Remark

Ref.No Part No. Description

Remark

R117 1-214-945-00 METAL 2.2M 1% 1/2W  
R120 1-244-840-00 CARBON 43 5% 1/2W  
R122 1-247-839-00 CARBON 2.2K 5% 1/6W  
R201 1-247-845-00 CARBON 3.9K 5% 1/6W  
R202 1-247-879-00 CARBON 100K 5% 1/6W

R203 1-247-869-00 CARBON 39K 5% 1/6W  
R204 1-247-833-00 CARBON 1.2K 5% 1/6W  
R205 1-247-831-00 CARBON 1K 5% 1/6W  
R206 1-247-891-00 CARBON 330K 5% 1/6W  
R207 1-247-819-00 CARBON 330 5% 1/6W

R209 1-247-831-00 CARBON 1K 5% 1/6W  
R211 1-247-839-00 CARBON 2.2K 5% 1/6W  
R212 1-247-831-00 CARBON 1K 5% 1/6W  
R213 1-247-846-00 CARBON 4.3K 5% 1/6W  
R214 1-247-838-00 CARBON 2K 5% 1/6W

R215 1-247-864-00 CARBON 24K 5% 1/6W  
R216 1-247-843-00 CARBON 3.3K 5% 1/6W  
R219 1-247-873-00 CARBON 56K 5% 1/6W  
R220 1-246-513-00 CARBON 47K 5% 1/4W  
R222 1-213-124-00 METAL OXI DE 27 5% 1W F

R223 1-247-831-00 CARBON 1K 5% 1/6W  
R226 1-211-427-00 CARBON 100 5% 1/8W F  
R227 1-247-839-00 CARBON 2.2K 5% 1/6W  
R228 1-247-831-00 CARBON 1K 5% 1/6W  
R305 1-247-827-00 CARBON 680 5% 1/6W

R306 1-247-855-00 CARBON 10K 5% 1/6W  
R309 1-247-819-00 CARBON 330 5% 1/6W  
R310 1-247-819-00 CARBON 330 5% 1/6W  
R311 1-247-819-00 CARBON 330 5% 1/6W  
R312 1-247-821-00 CARBON 390 5% 1/6W

R313 1-247-829-00 CARBON 820 5% 1/6W  
R315 1-247-863-00 CARBON 22K 5% 1/6W  
R314B 1-247-831-00 CARBON 1K 5% 1/6W  
R319 1-247-851-00 CARBON 6.8K 5% 1/6W  
R322 1-246-447-00 CARBON 82 5% 1/4W

R323 1-246-473-00 CARBON 1K 5% 1/4W  
R353 1-247-807-00 CARBON 100 5% 1/6W  
R357 1-247-851-00 CARBON 6.8K 5% 1/6W  
R358 1-247-841-00 CARBON 2.7K 5% 1/6W  
R359 1-247-839-00 CARBON 2.2K 5% 1/6W

R360 1-247-835-00 CARBON 1.5K 5% 1/6W  
R361 1-247-831-00 CARBON 1K 5% 1/6W  
R362B 1-247-831-00 CARBON 1K 5% 1/6W  
R363 1-247-837-00 CARBON 1.8K 5% 1/6W  
R364B 1-247-837-00 CARBON 1.8K 5% 1/6W

R365 1-247-855-00 CARBON 10K 5% 1/6W  
R501 1-247-842-00 CARBON 3K 5% 1/6W  
R502 1-247-853-00 CARBON 8.2K 5% 1/6W  
R503 1-247-887-00 CARBON 220K 5% 1/6W  
R504 1-247-879-00 CARBON 100K 5% 1/6W

R505 1-247-853-00 CARBON 8.2K 5% 1/6W  
R506 1-247-855-00 CARBON 10K 5% 1/6W  
R507 1-247-825-00 CARBON 560 5% 1/6W

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
R047	1-247-276-00	CARBON 33K 5% 1/2W	
R048	1-247-855-00	CARBON 10K 5% 1/6W	
R050	1-247-903-00	CARBON 1M 5% 1/6W	
R051	1-247-902-00	CARBON 910K 5% 1/6W	
R052	1-247-879-00	CARBON 100K 5% 1/6W	
R053	1-247-891-00	CARBON 330K 5% 1/6W	
R054	1-247-871-00	CARBON 47K 5% 1/6W	
R057	1-246-513-00	CARBON 47K 5% 1/4W	
R058	1-214-753-00	METAL 10K 1% 1/4W	
R059	1-214-761-00	METAL 22K 1% 1/4W	
R060	1-247-240-00	CARBON 1K 5% 1/2W	
R061	1-247-823-00	CARBON 470 5% 1/6W	
R062	1-247-863-00	CARBON 22K 5% 1/6W	
R067	1-247-821-00	CARBON 390 5% 1/6W	
R068	1-213-151-00	METAL OXIDE 4.7K 5% 1W F	
R069	1-213-151-00	METAL OXIDE 4.7K 5% 1W F	
R070	1-247-815-00	CARBON 220 5% 1/6W	
R071	1-247-811-00	CARBON 150 5% 1/6W	
R073	1-247-903-00	CARBON 1M 5% 1/6W	
R074	1-247-891-00	CARBON 330K 5% 1/6W	

#### VARIABLE RESISTOR

RV001 1-230-015-00 VOLUME BLOCK, PRESET

#### SWITCH

S008 1-552-437-00 SWITCH, LEVER

#### CRYSTAL

X001 1-527-532-00 OSCILLATOR, CERAMIC

\*\*\*\*\*

♣:1-609-499-00 M2 BOARD  
\*\*\*\*\*

♣:4-338-114-00 HOLDER, NEON LAMP  
♣:4-365-616-00 HOLDER, LED

#### DIODE

D018 8-719-106-34 DIODE SR632D  
D019 8-719-106-34 DIODE SR632D

#### NEON LAMP

NL001 1-519-154-00 LAMP, NEON  
NL002 1-519-154-00 LAMP, NEON  
NL003 1-519-154-00 LAMP, NEON  
NL004 1-519-154-00 LAMP, NEON  
NL005 1-519-154-00 LAMP, NEON

NL006 1-519-154-00 LAMP, NEON  
NL007 1-519-154-00 LAMP, NEON  
NL008 1-519-154-00 LAMP, NEON  
NL009 1-519-154-00 LAMP, NEON  
NL010 1-519-154-00 LAMP, NEON

Ref.No	Part No.	Description	Remark
NL011	1-519-154-00	LAMP, NEON	
NL012	1-519-154-00	LAMP, NEON	
NL013	1-519-154-00	LAMP, NEON	
NL014	1-519-154-00	LAMP, NEON	

#### RESISTOR

R001 1-247-843-00 CARBON 3.3K 5% 1/6W  
R026 1-247-843-00 CARBON 3.3K 5% 1/6W

#### SWITCH

S001 1-553-075-21 SWITCH, PUSH  
S002 1-553-075-21 SWITCH, PUSH  
S003 1-553-075-21 SWITCH, PUSH  
S004 1-553-075-21 SWITCH, PUSH  
S005 1-553-075-21 SWITCH, PUSH

S006 1-553-075-21 SWITCH, PUSH  
S007 1-553-075-21 SWITCH, PUSH

\*\*\*\*\*

♣:A-1330-422-A C BOARD, COMPLETE  
\*\*\*\*\*

♣:1-601-721-21 C BOARD  
1-526-645-00 SOCKET, CRT  
♣:1-556-398-00 CONNECTOR ASSY (2.5MM) 5P  
♣:1-556-796-00 CONNECTOR ASSY, MINIATURE 6P

#### CAPACITOR

C701 1-123-356-00 ELECT 10MF 20% 50V  
C702 1-129-737-00 FILM 0.047MF 20% 630V  
C703A 1-102-249-00 CERAMIC 680PF 20% 2KV  
C704 1-102-971-00 CERAMIC 82PF 5% 50V  
C705 1-102-112-00 CERAMIC 330PF 10% 50V  
C706 1-102-112-00 CERAMIC 330PF 10% 50V  
C707 1-102-112-00 CERAMIC 330PF 10% 50V

#### COIL

L701 1-407-704-00 MICRO INDUCTOR 82UH  
L702 1-407-704-00 MICRO INDUCTOR 82UH  
L703 1-407-704-00 MICRO INDUCTOR 82UH  
L704 1-407-705-00 MICRO INDUCTOR 100UH  
L705 1-421-401-00 COIL, FERRITE CHOKE

#### TRANSISTOR

Q701 8-729-322-78 TRANSISTOR 2SC2278  
Q702 8-729-322-78 TRANSISTOR 2SC2278  
Q703 8-729-322-78 TRANSISTOR 2SC2278

#### RESISTOR

R701 1-246-457-00 CARBON 220 5% 1/4W  
R702 1-246-488-00 CARBON 4.3K 5% 1/4W  
R703 1-206-692-00 METAL OXIDE 15K 5% 2W F  
R704 1-246-488-00 CARBON 4.3K 5% 1/4W  
R705 1-246-457-00 CARBON 220 5% 1/4W

C

Ref.No	Part No.	Description	Remark
R706	1-206-692-00	METAL OXIDE 15K 5% 2W	F
R707	1-246-461-00	CARBON 330 5% 1/4W	
R708	1-246-488-00	CARBON 4.3K 5% 1/4W	
R709	1-206-692-00	METAL OXIDE 15K 5% 2W	F
R710	1-202-824-00	SOLID 3.3K 1/2W	
R713	1-202-824-00	SOLID 3.3K 1/2W	
R714	1-202-609-00	SOLID 33K 1/2W	
R715	1-202-613-00	SOLID 47K 1/2W	
R716	1-202-824-00	SOLID 3.3K 1/2W	
R717	1-202-719-00	SOLID 1M 10% 1/2W	
R718	1-202-549-00	SOLID 100 10% 1/2W	
R719	1-202-719-00	SOLID 1M 10% 1/2W	
R720	1-202-631-00	SOLID 270K 1/2W	
R721	1-202-720-00	SOLID 1.2M 10% 1/2W	
R722	1-202-623-00	SOLID 120K 1/2W	
R723	1-202-629-00	SOLID 220K 1/2W	
R724	1-246-473-00	CARBON 1K 5% 1/4W	

## VARIABLE RESISTOR

RV701	1-226-209-00	RES, ADJ, CARBON 3.3K
RV702	1-224-640-XX	RES, ADJ, CARBON 330
RV703	1-226-209-00	RES, ADJ, CARBON 3.3K
RV704	1-224-640-XX	RES, ADJ, CARBON 330
RV705	1-226-209-00	RES, ADJ, CARBON 3.3K
RV706	1-226-063-00	RES, ADJ, CARBON 2.2M
RV707	1-226-114-00	RES, ADJ, METAL GLAZE 2.2M

\*\*\*\*\*

## MISCELLANEOUS

\*\*\*\*\*

A.1-228-482-24	RESISTOR ASSY, HIGH-VOLTAGE
A.1-451-179-22	DEFLECTION YOKE (SY-92C)
1-452-032-00	MAGNET, DISK; 10MM $\phi$
1-452-094-00	MAGNET, DISK, ROTATABLE; 15MM $\phi$
1-452-146-00	MAGNET, BMC
A.1-463-445-00	TUNER, ET (8T-892)
1-501-276-00	ANTENNA, TELESCOPIC (AN-18)
1-534-764-00	FEEDER WITH TERMINAL
A.1-536-592-41	TERMINAL BOARD ASSY, ANTENNA
1-551-792-51	CONNECTOR ASSY (L) 2P
1-551-854-00	CONNECTOR ASSY 1P
A.1-556-198-11	CORD, POWER
1-556-339-00	CONNECTOR ASSY (2.5MM) 3P
1-556-652-00	CONNECTOR ASSY (2.5MM) 4P
1-556-754-00	CONNECTOR ASSY, MINIATURE 3P
J901A 1-507-372-00	JM-35 DOUBLE JACK
J901B 1-507-372-00	JM-35 DOUBLE JACK
L901 A.1-425-923-62	COIL, DEGAUSSING
L902 A.1-425-923-62	COIL, DEGAUSSING
S901 A.1-554-538-11	SWITCH, PUSH (AC POWER)
SP901 1-502-882-00	SPEAKER
T503 A.1-439-250-21	TRANSFORMER ASSY, FLYBACK

Ref.No	Part No.	Description	Remark
V901	A.8-739-605-05	CRT 400EHB22	

\*\*\*\*\*

## ACCESSORIES AND PACKING MATERIALS

\*\*\*\*\*

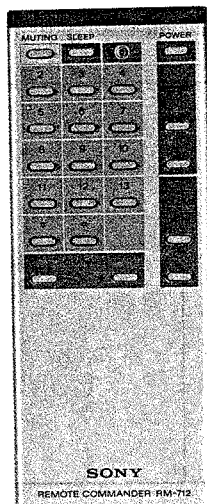
Part No.	Description	Remark
A-1470-614-A	COMMANDER ASSY (RM-712)	
1-504-034-32	EARPHONE, MAGNETIC (ME-20B)	
1-506-409-00	ADAPTOR, CONVERSION	
4-314-534-00	BAG, POLYETHYLENE	
4-354-607-11	SHEET CHANNEL	
4-365-238-00	LABEL (B), INDICATOR	
4-365-635-00	CUSHION (UPPER) ASSY	
4-365-636-00	CSHION (LOWER) ASSY	
4-365-642-00	LABEL (SPANISH), INSTRUCTION	
4-365-647-00	INDIVIDUAL CARTON	
4-493-776-41	MANUAL, INSTRUCTION	

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.



# RM-712

## SERVICE MANUAL



May, 1983

### SPECIFICATIONS

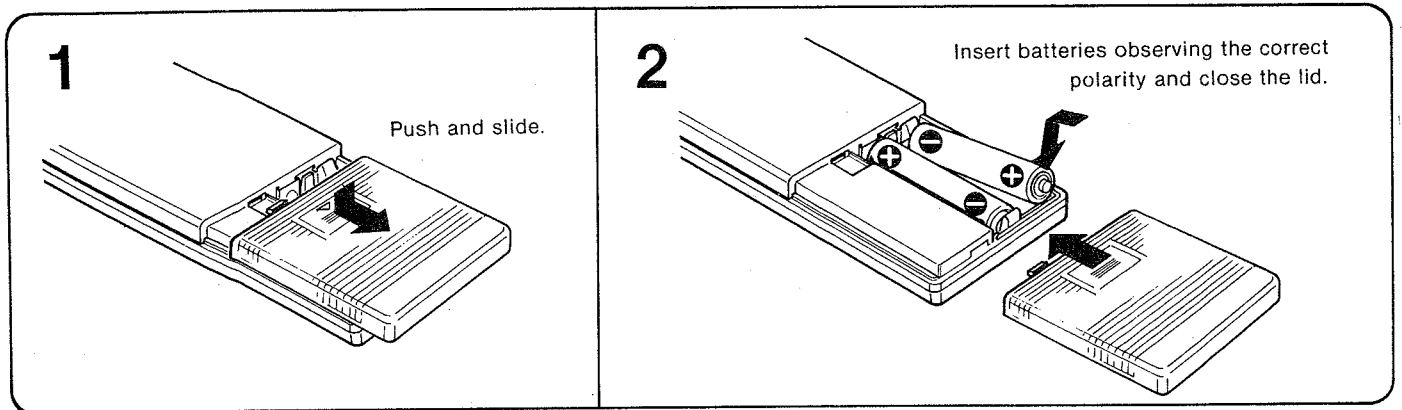
Remote control system	Infrared control
Power requirements	3 V dc Battery size AA × 2 (IEC Battery Designation R6)
Dimensions	Approx. 60 × 20 × 150 mm (w/h/d) (2 <sup>3</sup> / <sub>8</sub> × 7 <sup>7</sup> / <sub>8</sub> × 6 inches)
Weight	Approx. 130 g (4.6 oz) incl. batteries
Accessories supplied	Battery size AA (2 pcs.) Channel number segments (1 set)

Design and specifications subject to change without notice.

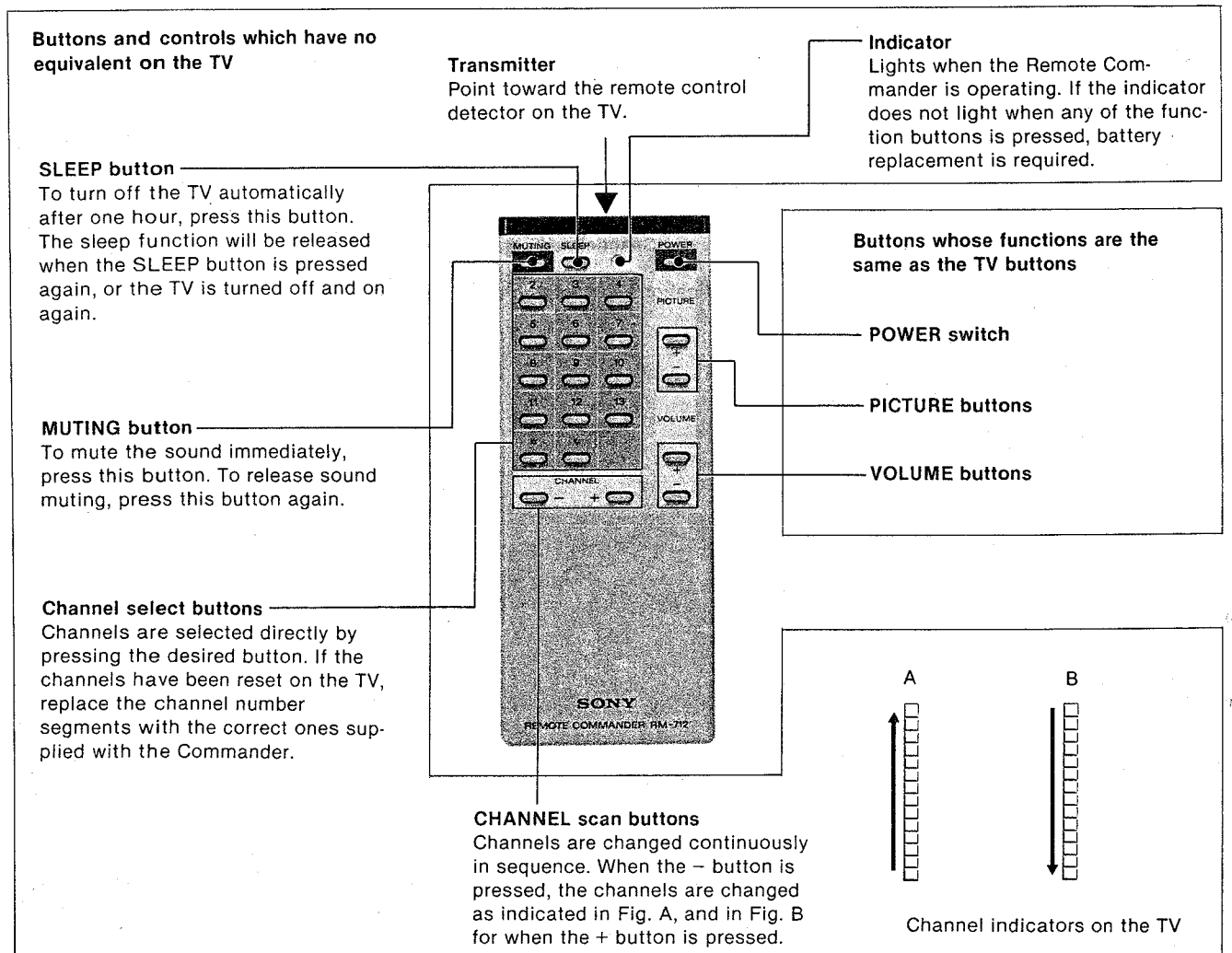
REMOTE COMMANDER  
**SONY**®

## 1. BATTERY INSTALLATION

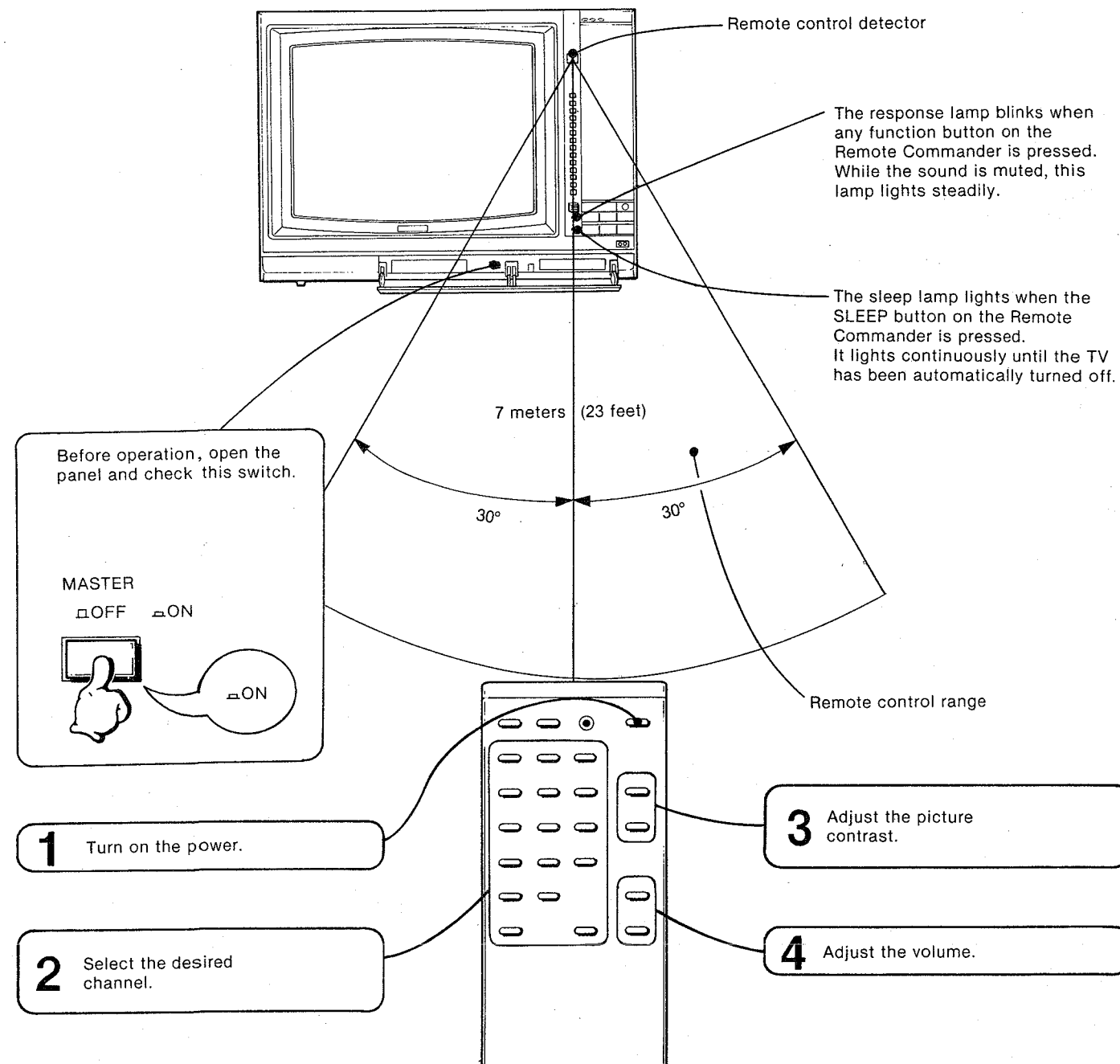
The Sony RM-712 Remote Commander operates on two supplied AA batteries (IEC designation R6).



## 2. FUNCTION OF BUTTONS ON THE REMOTE COMMANDER



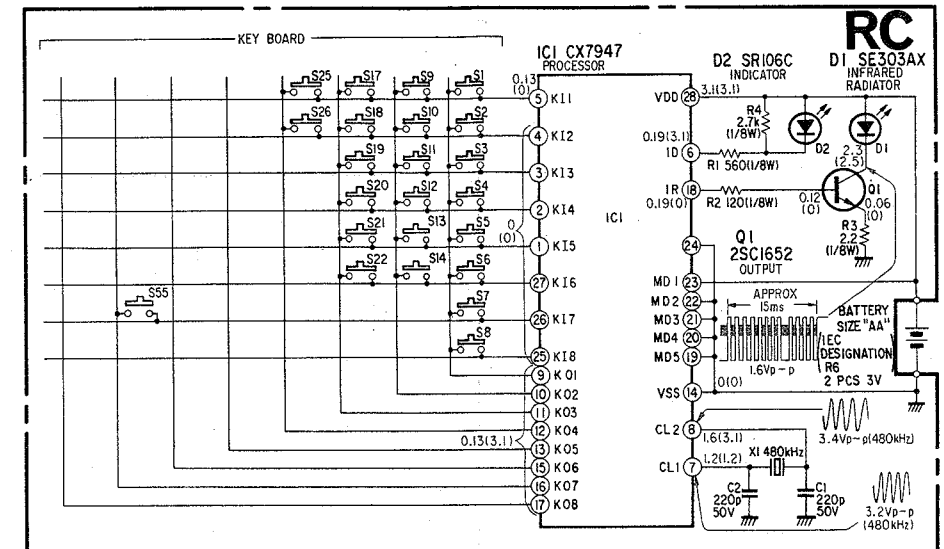
### 3. OPERATION OF THE REMOTE COMMANDER



#### Notes on the Remote Commander

- In normal operation, battery life is up to half a year. When the batteries are exhausted, the Remote Commander will not operate the TV properly. In this case, replace the batteries with new ones.
- When the Commander is not used for a long period of time, remove the batteries to avoid damage from possible battery leakage.
- Keep the Commander away from extremely hot or humid places.
- Avoid dropping any foreign objects into the Commander case when replacing batteries.
- The RM-712 Remote Commander may be used only with those Sony color TV models indicated in the operating instructions.

### 4. SCHEMATIC DIAGRAM

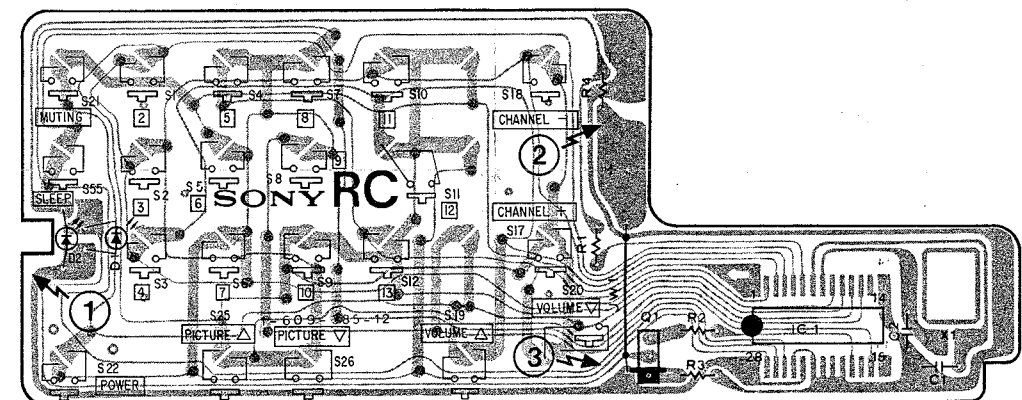


KEY MATRIX TABLE

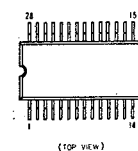
K01	K02	K03	K04	K05	K06	K07	K08
K11 S1 CH-2	S9 CH-10	S17 CHANNEL +	S25 PICTURE +	S33 S41	S49 S57		
K12 S2 CH-3	S10 CH-11	S18 CHANNEL -	S26 PICTURE -	S34 S42	S50 S58		
K13 S3 CH-4	S11 CH-12	S19 VOLUME +	S27 S35	S43 S51	S59		
K14 S4 CH-5	S12 CH-13	S20 VOLUME -	S28 S36	S44 S52	S60		
K15 S5 CH-6	S13 S21 MUTE	S29 S37	S45 S53	S46 S54	S61		
K16 S6 CH-7	S14 S22 POWER	S30 S38	S46 S50	S47 S55	S62		
K17 S7 CH-8	S15 S23	S31 S39	S47 S55	S56 S63			
K18 S8 CH-9	S16 S24	S32 S40	S48 S56	S64			

- All voltages are in V (volt).
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ/V digital multimeter. No marking: S1 is depressed. ( ): no depressed.
- Voltage variations may be noted due to normal production tolerances.

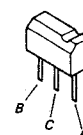
### 5. PRINTED WIRING BOARD - Conductor Side -



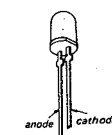
CX7947



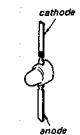
2SC1652



SE303AX



SR106C

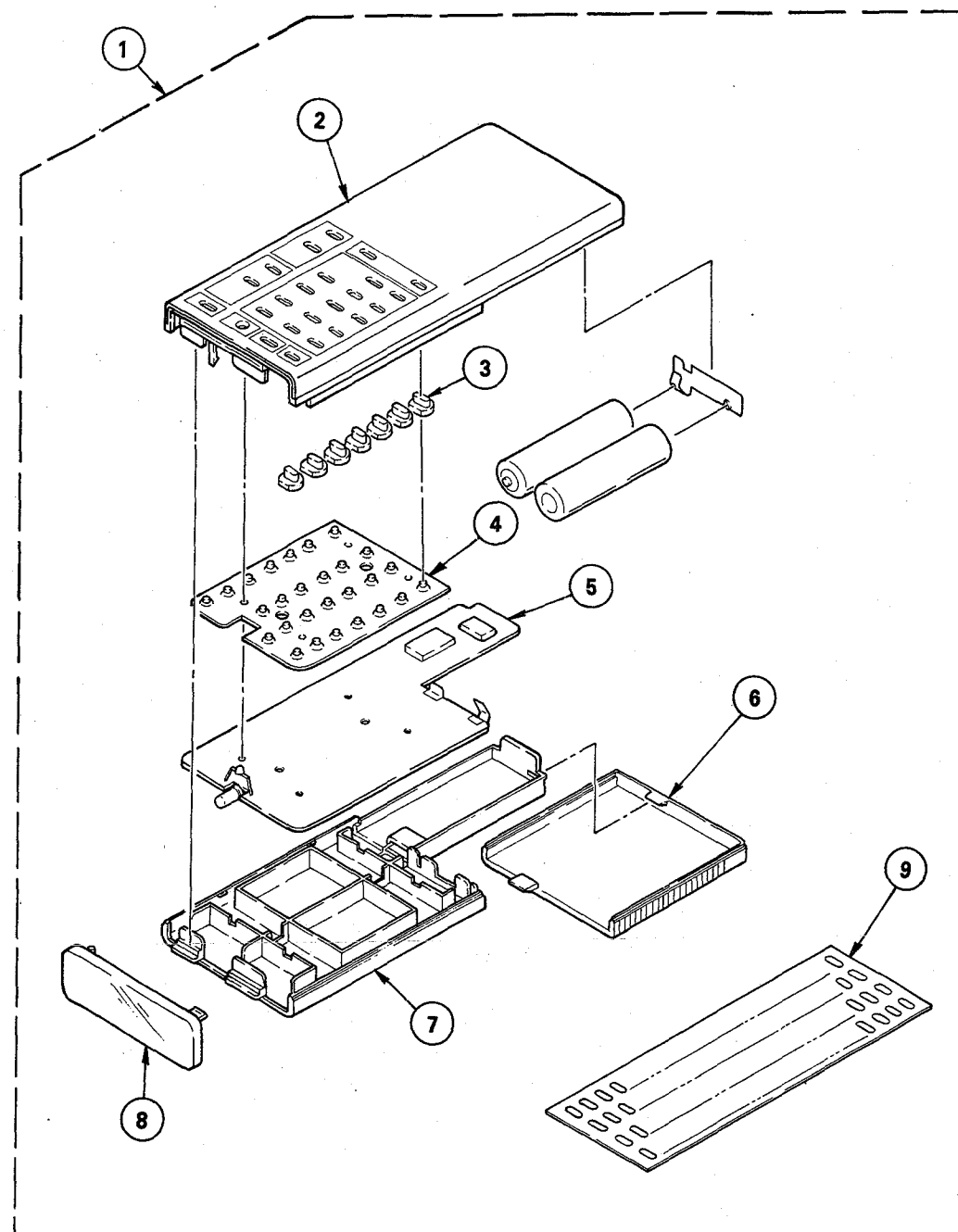


## 6. EXPLODED VIEW

## NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	A-1470-614-A	COMMANDER ASSY (RM-712)	2,3,4,5 6,7,8	5	▲:1-609-385-00	RC BOARD	
2	X-4365-201-0	CASE ASSY, UPPER		6	4-350-931-00	COVER, BATTERY	
3	4-365-201-01	KEY TOP, TUNING		7	4-350-933-00	CASE, LOWER	
4	4-365-202-00	SHEET, RUBBER		8	4-350-929-00	PLATE, FROSTED	
				9	4-354-607-11	SHEET, CHANNEL	

## 7. ELECTRICAL PARTS LIST

## NOTE:

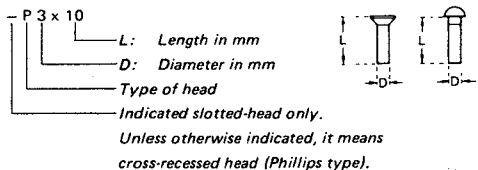
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CAPACITORS  
 • MF :  $\mu$ F, PF :  $\mu$ F  
 RESISTORS  
 • All resistors are in ohms  
 • F : nonflammable

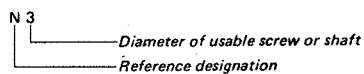
Ref.No	Part No.	Description	Remark
	▲:1-609-385-00	RC BOARD *****	
	4-350-923-00	TERMINAL (A), BATTERY	
	4-350-924-00	TERMINAL (B), BATTERY	
CAPACITOR			
C1	1-102-110-00	CERAMIC 220PF 10% 50V	
C2	1-102-110-00	CERAMIC 220PF 10% 50V	
DIODE			
D1	8-719-193-03	DIODE SE303AX	
D2	8-719-100-06	DIODE SR106C	
IC			
IC1	8-759-902-22	IC CX7947	
TRANSISTOR			
Q1	8-729-965-22	TRANSISTOR 2SC1652	
RESISTOR			
R1	1-247-825-00	CARBON 560 5% 1/6W	
R2	1-247-809-00	CARBON 120 5% 1/6W	
R3	1-247-767-00	CARBON 2.2 5% 1/6W	
R4	1-247-841-00	CARBON 2.7K 5% 1/6W	
CRYSTAL			
X1	1-527-476-00	OSCILLATOR, CERAMIC	

## HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
<b>SCREWS</b>			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
<b>SELF-TAPPING SCREWS</b>			
TA		self-tapping screw	ex: TA, P 3 x 10 <sup>1</sup>
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
<b>SET SCREWS</b>			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
<b>NUT</b>			
N		nut	
<b>WASHERS</b>			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
<b>RETAINING RINGS</b>			
E		retaining ring	
G		grip-type retaining ring	

9-963-094-01

**Sony Corporation**  
Consumer Products Group  
Technical Support Dept.

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